CDP-XE900/XE900E

SERVICE MANUAL

AEP Model
CDP-XE900
UK Model
Chinese Model
CDP-XE900E

PHOTO : CDP-XE900

Model Name Using Similar Mechanism	NEW
CD Mechanism Type	CDM36-14
Base Unit Type	BU-14
Optical Pick-up Type	KSS-213B/S-N

SPECIFICATIONS

Compact disc player

Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output	Max 44.6 µW* * This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up block with 7 mm aperture.
Frequency response	2 Hz to 20 kHz ± 0.5 dB
Signal-to-noise ratio	More than 113 dB
Dynamic range	More the 99 dB
Harmonic distortion	Less than 0.0025%
Channel separation	More than 105 dB

Outputs

	Jack type	Maximum output level	Load impedance
LINE OUT	Phono jacks	2 V (at 50 kilohms)	Over 50 kilohms
DIGITAL OUT (OPTICAL)	Optical output connector	–18 dBm	Wave length : 660 nm
PHONES (CDP-XE900)	Stereo phone jack	10 mW	32 ohms

General

Power requirements	Except Chinese model : 220 V – 230 V AC, 50/60 Hz Chinese model : 220V AC50/60Hz
Power consumption	14W
Dimensions (approx.) (w/h/d)	430 × 1107 × 295 mm (17 × 4 1/4 × 11 5/8 in.) incl. projecting parts
Mass (approx.)	5.2 kg (8 lbs 13 oz)

Supplied accessories

Audio cord (2 phono plugs–2 phono plugs) (1)
Remote commander (RM-D820) (1)
Sony SUM-3 (NS) batteries (2)

Design and specifications are subject to change without notice.

MICROFILM

COMPACT DISC PLAYER

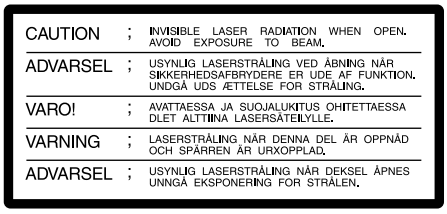
SONY®

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

The laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

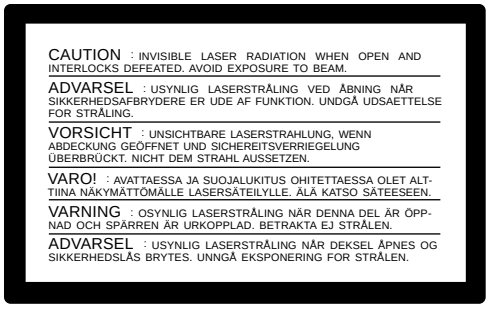
This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.

(XE900E)


CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA DLET ALTTIINA LASERSÄTEILYLLE.
VARNING ; LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

(XE900)


CAUTION : INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EXPOSURE TO BEAM.
ADVARSEL : USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.
VORSICHT : UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET UND SICHEREITSVERRIEGELUNG ÜBERBRÜCKT. NICHT DEM STRAHL AUSSETZEN.
VARO! : AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE. ÄLÄ KATSO SÄTEESEEN.
VARNING : OSYNLIG LASERSTRÅLING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN.
ADVARSEL : USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES OG SIKKERHEDSLÅS BRYTES. UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

Notes on chip component replacement
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing
- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING !!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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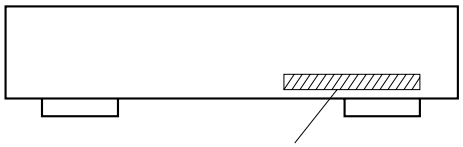
MODEL IDENTIFICATION
— BACK PANEL —

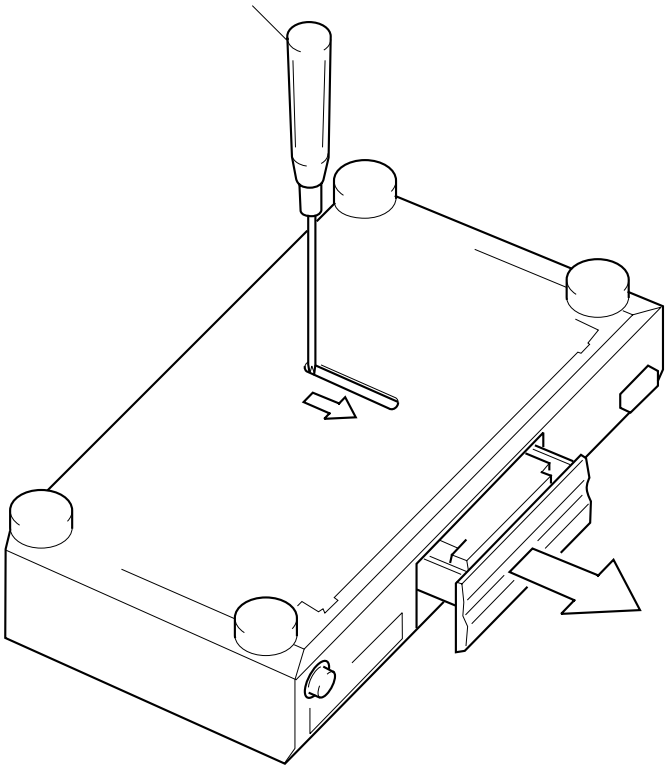


4-983-973-1☐: XE900 (AEP, German) model
4-983-973-2☐: XE900E (UK) model
4-983-973-3☐: XE900E (Chinese) model

SECTION 1
SERVICING NOTE

HOW TO OPEN THE DISC TRAY WHEN POWER SWITCH TURNS OFF

Insert a screwdriver into the aperture of the unit bottom, and move it in the direction of arrow.



NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

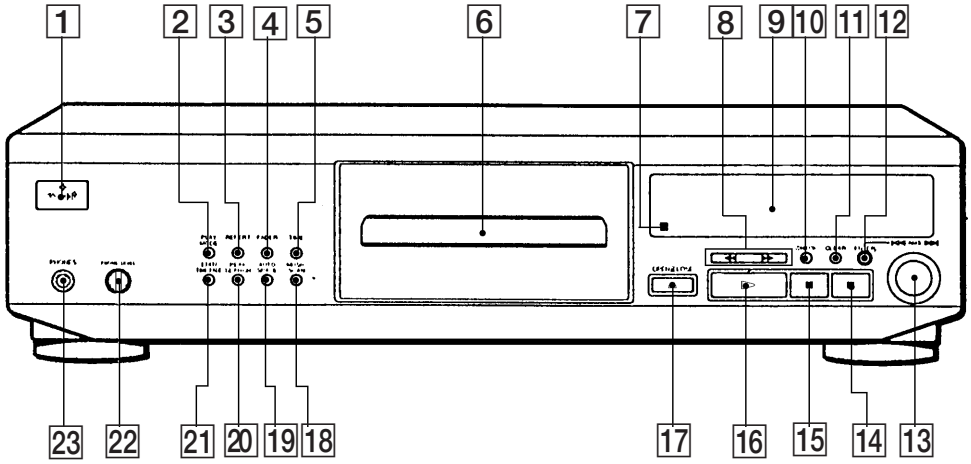
LASER DIODE AND FOCUS SEARCH OPERATION CHECK

Carry out the “S curve check” in “CD section adjustment” and check that the S curve waveform is output two times.

SECTION 2
GENERAL

LOCATION OF PARTS AND CONTROLS

Front Panel



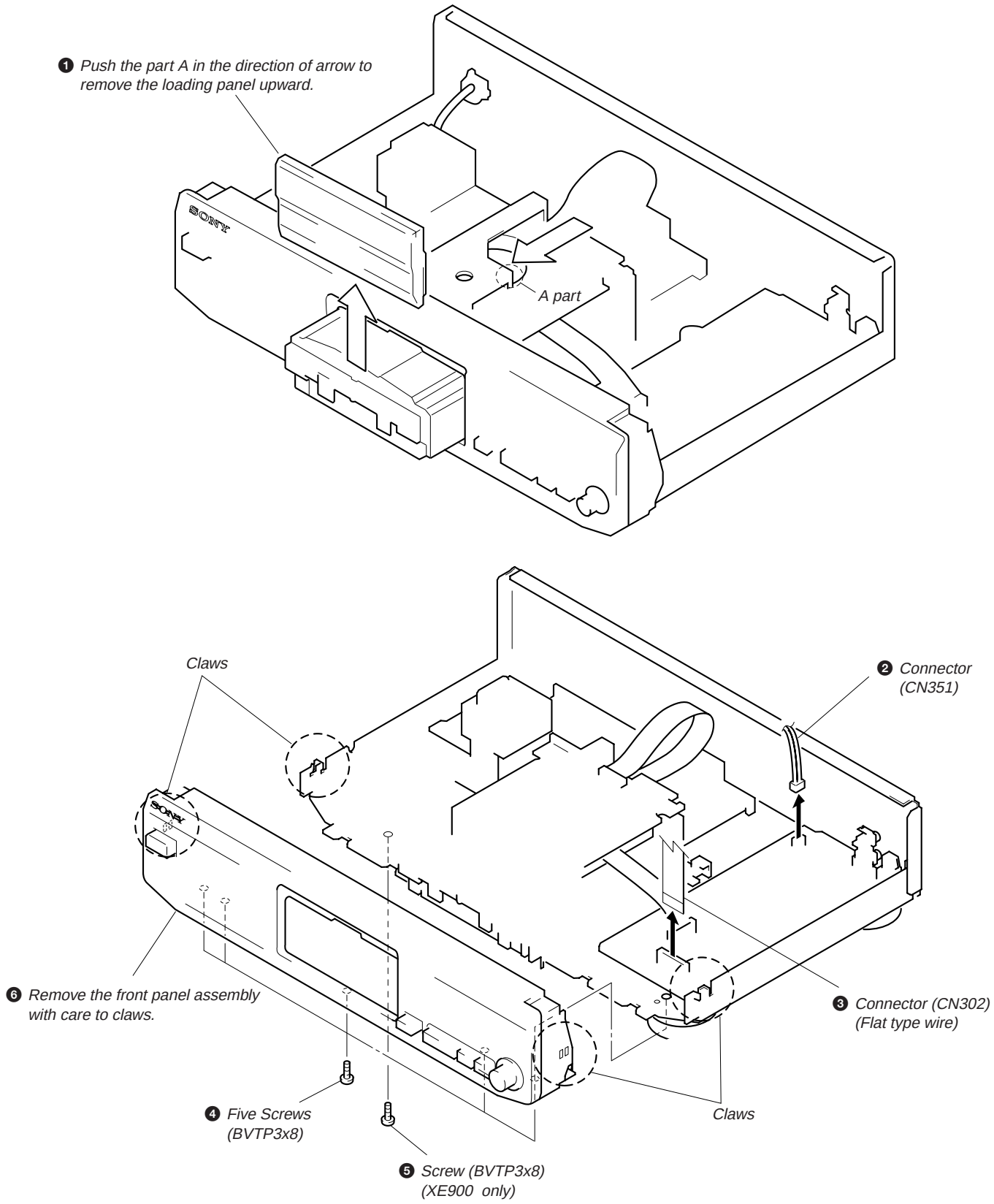
1 POWER switch
2 PLAY MODE button
3 REPEAT button
4 FADER button
5 TIME button
6 Disc tray
7 Remote sensor
8 ◀◀/▶▶ buttons
9 Display window
10 CHECK button
11 CLEAR button
12 ENTER button
13 ⏮ AMS* ⏭ knob
14 ■ (stop) button
15 ❚❚ (pause) button
16 ▷ (play) button
17 ⏏ OPEN/CLOSE button
18 MUSIC SCAN button
19 AUTO SPACE button
20 PEAK SEARCH button
21 EDIT/TIME FADE button
22 PHONES LEVEL control (CDP-XE900)
23 PHONES jack (CDP-XE900)

* AMS is the abbreviation for Automatic Music Sensor.

SECTION 3
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

3-1. FRONT PANEL ASSEMBLY


❶ Push the part A in the direction of arrow to remove the loading panel upward.
A part
Claws
❷ Connector (CN351)
❻ Remove the front panel assembly with care to claws.
❸ Connector (CN302) (Flat type wire)
❹ Five Screws (BVTP3x8)
Claws
❺ Screw (BVTP3x8) (XE900 only)

SECTION 4
TEST MODE

4-1. AF MODE

The following checks can be performed in the AF mode, which is set by connecting the TP2 (AFADJ) terminal on MAIN board to the Ground and turning on the power.

- **FL tube check**

  After all segments light up, when the ▷ button is pressed, the following will be displayed. (Partial lighting 1)

(Partial lighting 1)

When the ■ button is pressed, the following will be displayed. (partial lighting 2)

	2		4	
6		8		10
	12		14	
16		18		20

(Partial lighting 2)

When the OPEN/CLOSE ⏏ button is pressed, all will light up again.

- **Key check**

  All buttons have corresponding button numbers. When a button is pressed, the counter will count up and display the button's number. However, the counter will only count to "17". It will not count for buttons already pressed once, but will display the button's number.

Display of counting *Display of button number*

Button	Button No. Displayed	Button	Button No. Displayed
TIME	00	ENTER	32
FADER	01	CLEAR	33
REPEAT	02	CHECK	34
PLAY MODE	03	▶▶	35
EDIT/ TIME FADE	04	◀◀	36
		OPEN/ CLOSE ⏏	All lit
PEAK SEARCH	05		
AUTO SPACE	06	PLAY ▷	Partial lighting 1
MUSIC SCAN	07	STOP ■	Partial lighting 2
❚❚	25		

- **Remote commander check**

  When the ▷ button of the remote commander is pressed, the "▷" lights up. All go off when the other buttons are pressed.

- **Audio check**
  - Initial setting of digital filter and release of mute.
  - When the TP2 (AFADJ) terminal on MAIN board is set to HIGH (VDD), emphasis turns on. When set to LOW (Ground), it turns off.

4-2. ADJ MODE

The following operations are performed in the ADJ mode, which is set by connecting the TP1 (ADJ) terminal to the Ground and turning on the power.

- During playback, there is no problem even if the GFS is continuously LOW.
- High speed search is prohibited during access.
- During playback, the gain of focus servo and spindle servo does not decrease.
- Servo related manual operations and measurement can be performed.
  (For details of operations, refer to Table of Key Operrations in ADJ Mode.)

4-3. CLV-S MODE

The spindle servo for playback sets into the CLV-S mode when the TP1 (ADJ) terminal is connected to Ground after turning on the power.

TABLE OF BUTTON OPERATIONS IN ADJ MODE

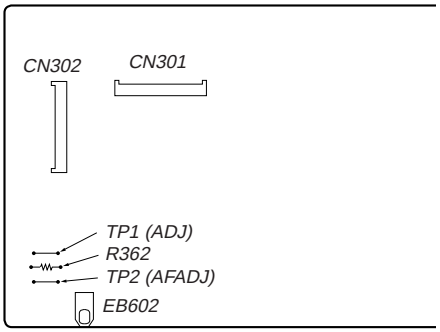
The jitter value display mode can be set after the all-music remaining number mode using the TIME button.

The functions of the number buttons are shown in the following table.

FUNCTIONS OF NUMBER BUTTONS (With the attached remote commander)

Button	Function
1	Focus bias 8-step up
2	Middle of focus bias up/down turning point
3	Tracking servo, sled servo off
4	Auto gain initialization
5	Focus servo off
6	Focus bias 8-step down
7	Immediate readjustment of focus bias
8	Tracking servo, sled servo on
10	Auto focus bias start point

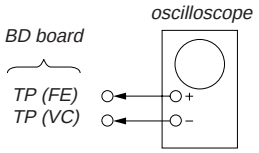
[MAIN BOARD] — Component Side —



SECTION 5
ELECTRICAL BLOCK CHECKING

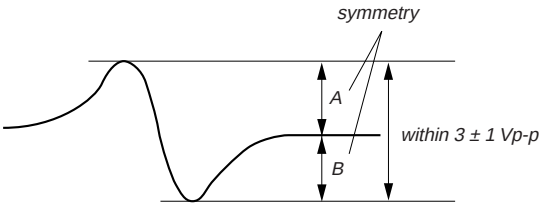
Note:
1. CD Block is basically designed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.

S Curve Check



Procedure :
1. Connect oscilloscope to test point TP (FE) on BD board.
2. Connect between test point TP (FEI) and TP (VC) by lead wire.
3. Turn Power switch on.
4. Put disc (YEDS-18) in and turn Power switch on again and actuate the focus search. (actuate the focus search when disc table is moving in and out.)
5. Check the oscilloscope waveform (S-curve) is symmetrical between A and B. And confirm peak to peak level within 3±1 Vp-p.

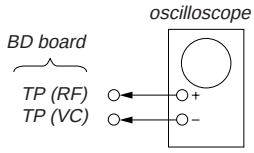
S-curve waveform



6. After check, remove the lead wire connected in step 2.

Note : • Try to measure several times to make sure than the ratio of A : B or B : A is more than 10 : 7.
• Take sweep time as long as possible and light up the brightness to obtain best waveform.

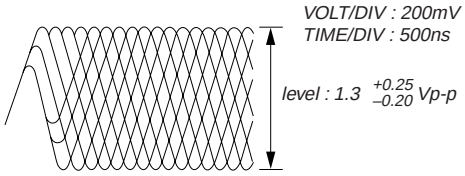
RF Level Check



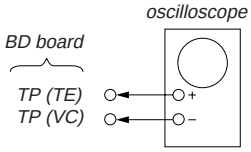
Procedure :
1. Connect oscilloscope to test point TP (RF) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

Note: A clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.

RF signal waveform

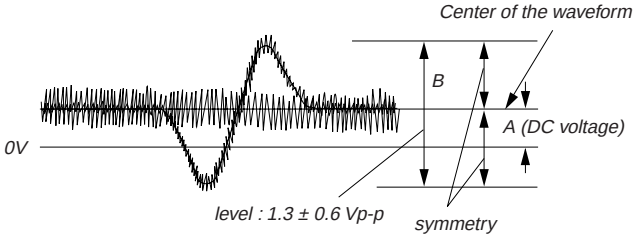


E-F Balance (1 Track Jump) Check (Without remote commander)

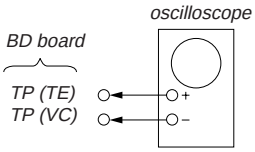


Procedure :
1. Connect oscilloscpe to test point TP (TE) on BD board.
2. Turn Power switch on.
3. Put disc (YEDS-18) in to play the number five track.
4. Press the "▮▮ (Pause)" button. (Becomes the 1 track jump mode)
5. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B x 100 = less than ± 22%

1 track jump waveform

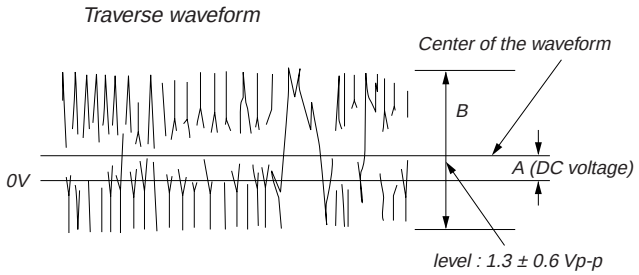


E-F Balance (Traverse) Check (With remote commander)

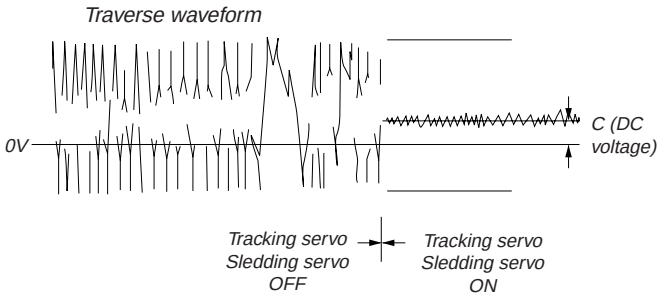


Procedure :
1. Connect oscilloscpe to test point TP (TE) on BD board.
2. Connect the test point TP1 (ADJ) on MAIN board to the ground with a lead wire.
3. Turn the Power switch on to set the ADJ mode.
4. Put disc (YEDS-18) in to play the number five track.
5. Press the "3" button. (The tracking servo and the sledding servo are turned OFF.)

6. Check the level B of the oscilliscope's waveform and the A (DC voltage) of the center of the Traverse waveform.
   Confirm the following :
   A/B x 100 = less than ± 22%

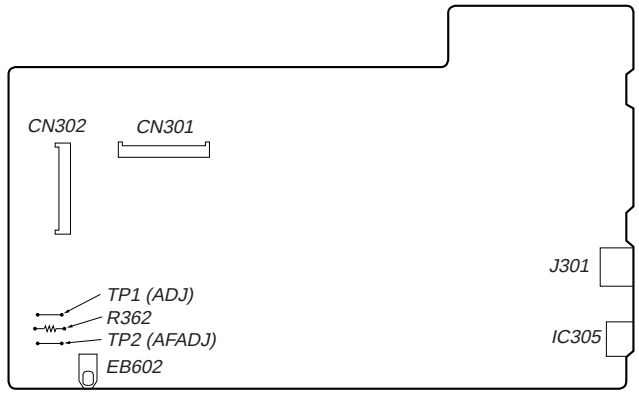


7. Press the “8” button. (The tracking servo and sledding servo are turned ON.) Confirm the C (DC voltage) is almost equal to the A (DC voltage) is step 6.



8. Disconnect the lead wire of TP1 (ADJ) connected in step 1.

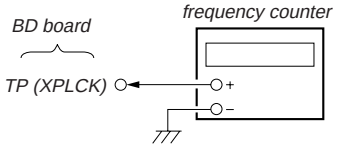
[MAIN BOARD] — Component Side —



RF PLL Free-run Frequency Check

Procedure :

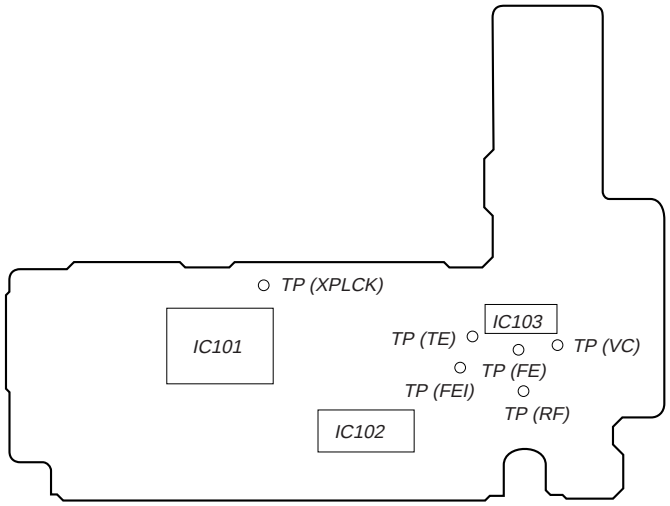
1. Connect frequency counter to test point TP (XPLCK) with lead wire.



2. Turn Power switch on.
3. Put the disc (YEDS-18) in to play the number five track. Confirm that reading on frequency counter is 4.3218MHz.

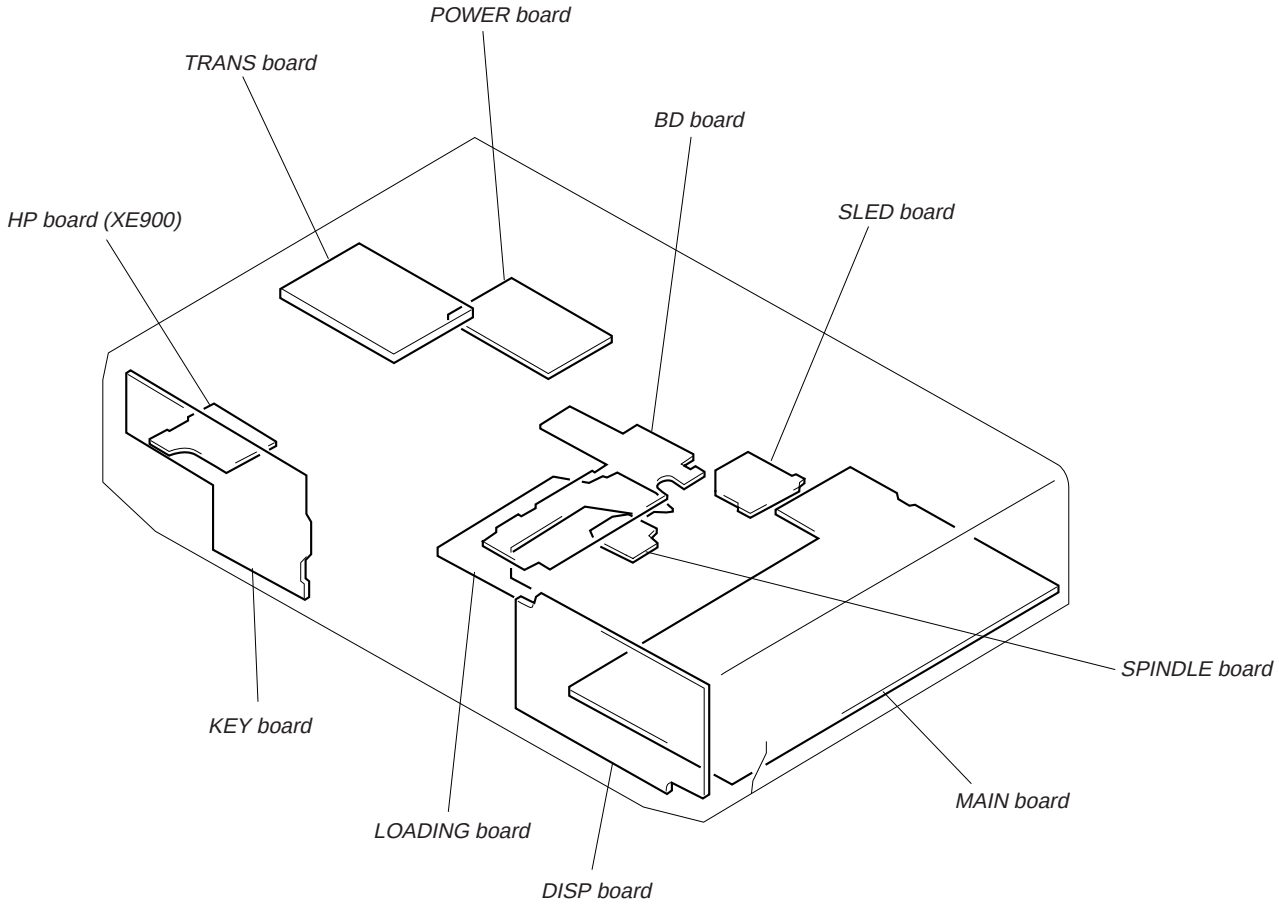
Adjustment Location :

[BD BOARD] — Side A —



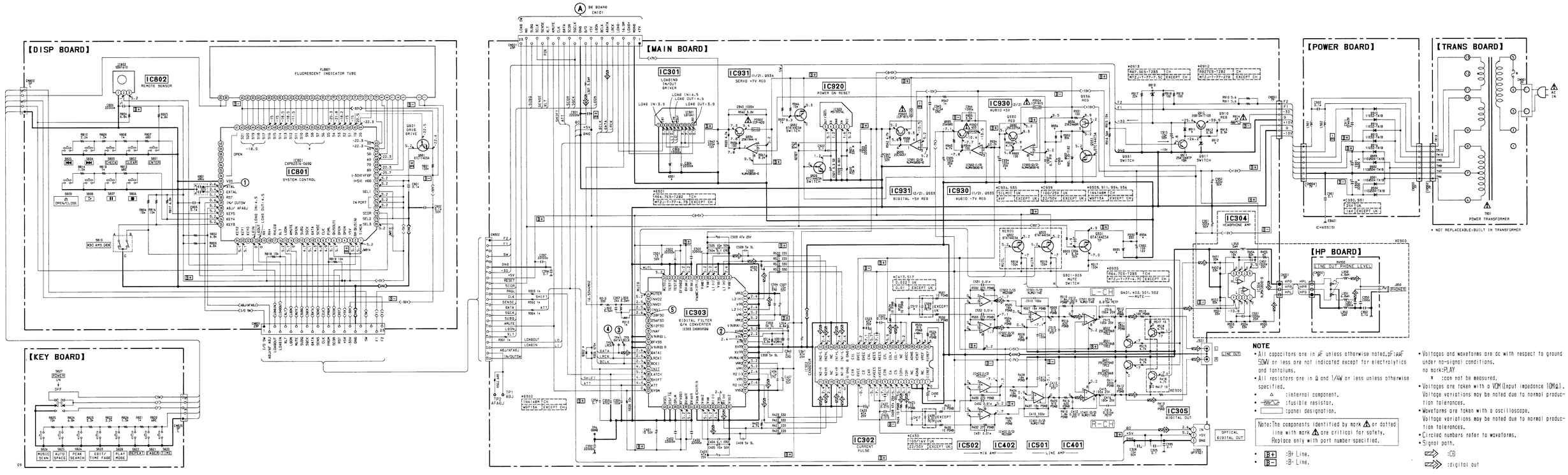
SECTION 6
DIAGRAMS

6-1. CIRCUIT BOARDS LOCATION



6-3. SCHEMATIC DIAGRAM — MAIN SECTION —

• See page 26 for IC Pin Function. (IC801)



NOTE

- All capacitors are in μF unless otherwise noted. pF: μμF
  50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- △ : internal component.
- ▬W▬ : fusible resistor.
- ▭ : panel designation.

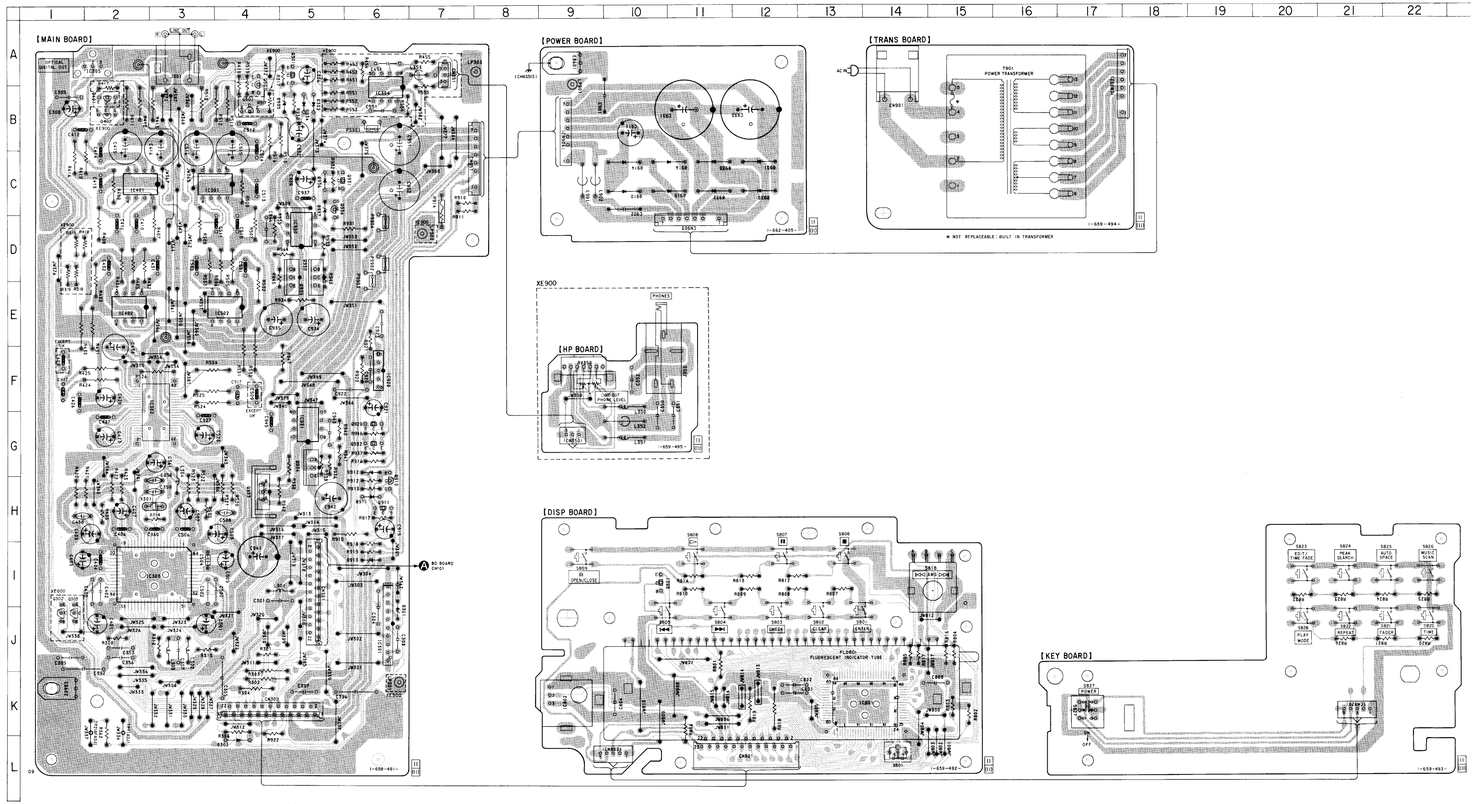
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ : B+ Line.
- B− : B− Line.

- Voltages and waveforms are dc with respect to ground under no-signal conditions.
  no mark: DC 4V
  X : can not be measured.
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇒ : CD
  ⇒ : digital out

6-2. PRINTED WIRING BOARD — MAIN SECTION —

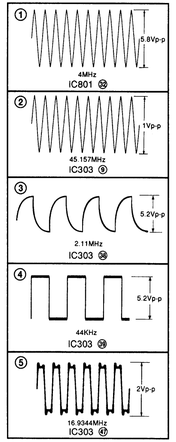
• See page 19 for Circuit Boards Location.



• Semiconductor Location

Ref. No.	Location
D301	I-6
D302	K-4
D303	B-5
D910	C-10
D911	H-6
D912	I-6
D914	C-10
D915	C-11
D916	C-11
D930	C-12
D931	C-12
D932	C-11
D933	C-11
D934	B-5
D935	B-5
D936	C-5
D937	C-5
IC301	J-6
IC302	F-3
IC303	I-3
IC304	B-6
IC305	A-2
IC401	C-2
IC402	E-2
IC501	C-3
IC502	E-4
IC801	K-13
IC802	K-9
IC920	F-6
IC930	D-5
IC931	G-5
Q301	A-5
Q302	I-1
Q303	I-1
Q401	B-2
Q402	B-2
Q501	A-4
Q502	B-4
Q801	I-10
Q910	H-6
Q911	H-6
Q920	G-6
Q930	D-5
Q931	C-5
Q932	G-6
Q933	H-4
Q934	G-5
Q936	C-5

• Waveforms

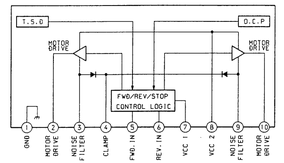


Note:

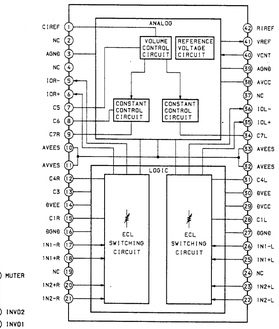
- ⟷ : parts extracted from the component side.
- △ : internal component.
- ▒▒ : Pattern from the side which enable seeing.

• IC Block Diagrams

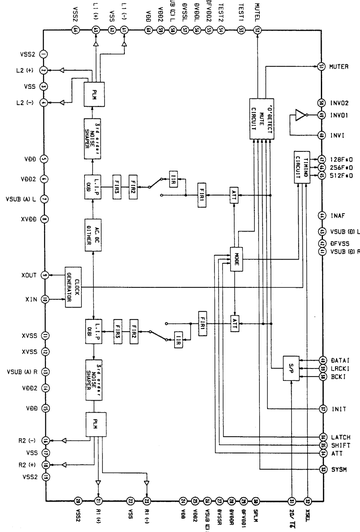
IC301 LB1641



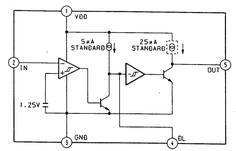
IC302 CXA8055M



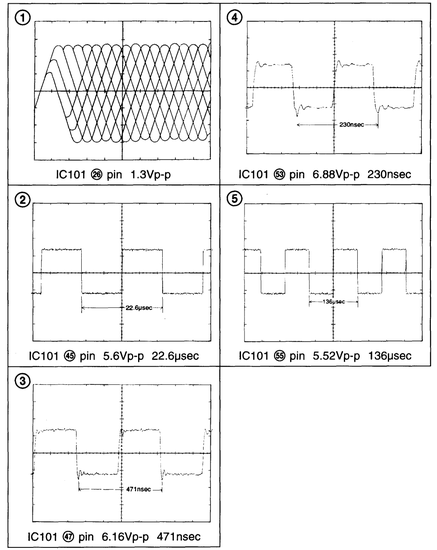
IC303 CXD8505BQ



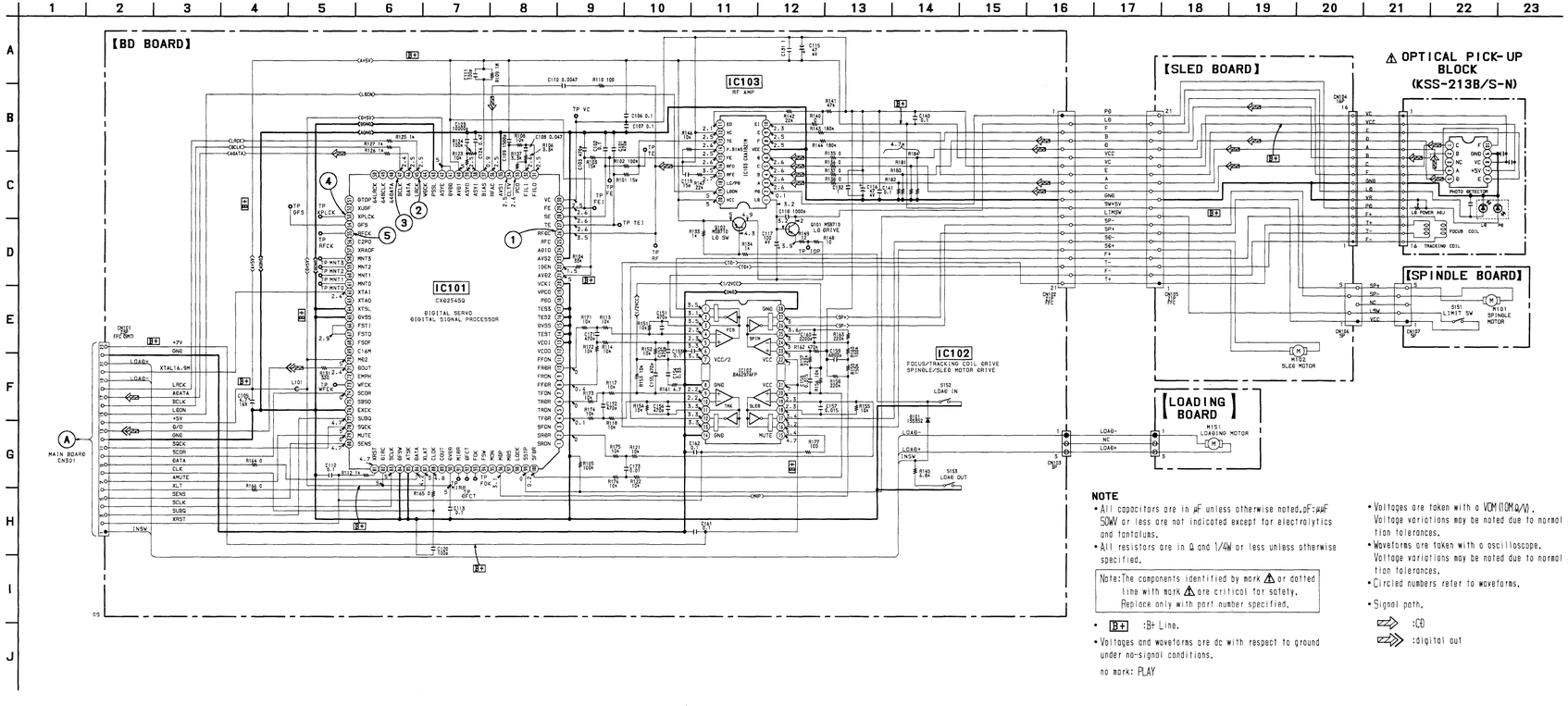
IC920 M51957AL



• Waveforms



6-5. SCHEMATIC DIAGRAM — BD SECTION —



NOTE

- All capacitors are in μF unless otherwise noted. pF: μF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ :B+ Line.
- Voltages and waveforms are dc with respect to ground under no-signal conditions.

no mark: PLAY

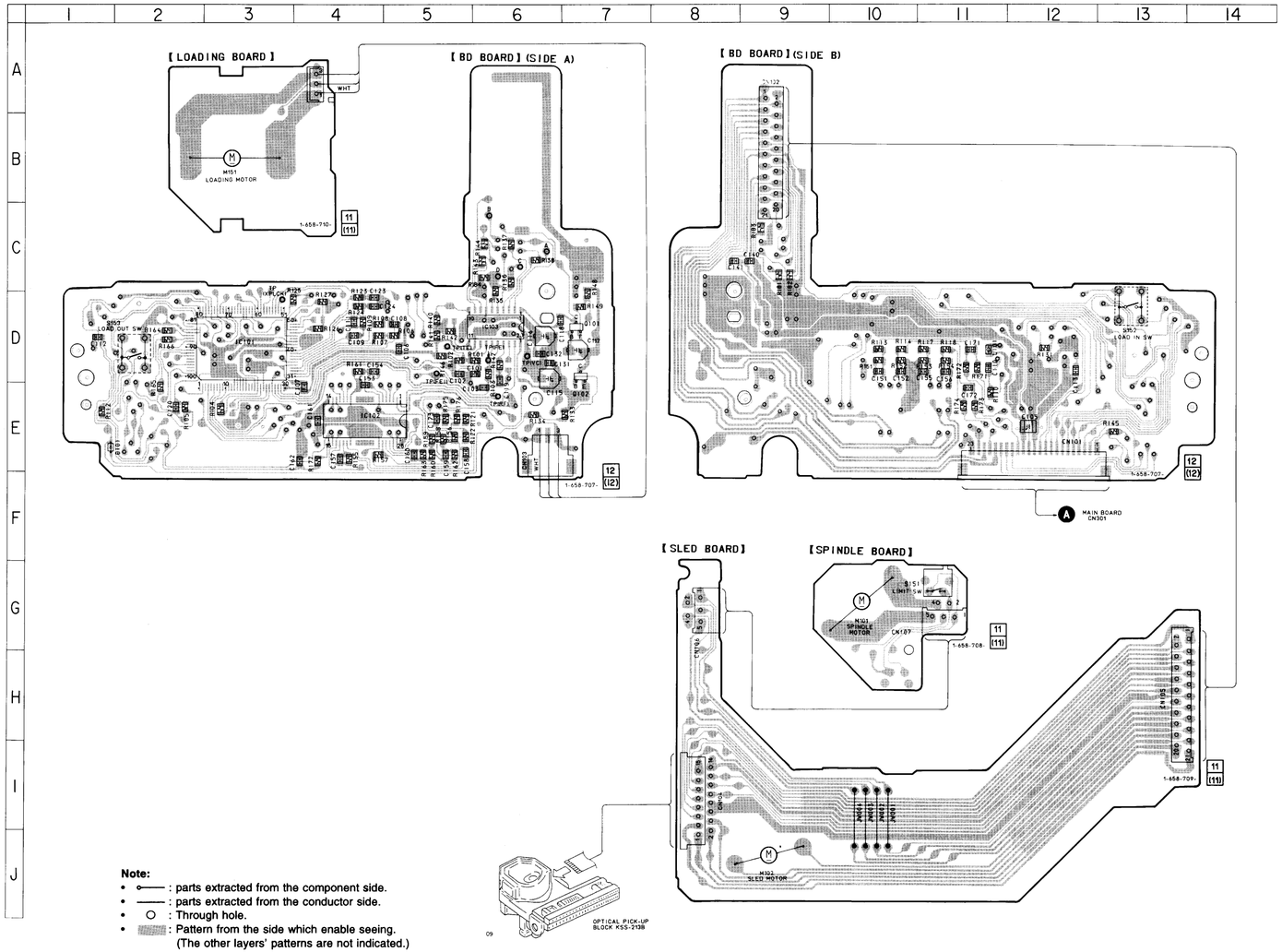
- Voltages are taken with a VOM (10MΩ/V). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.

:CD

:digital out

6-4. PRINTED WIRING BOARD — BD SECTION —

• See page 19 for Circuit Boards Location.



Note:

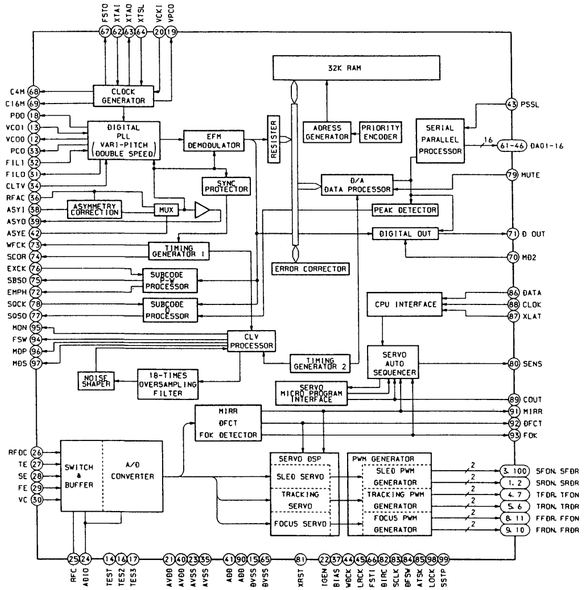
- ○—— : parts extracted from the component side.
- —— : parts extracted from the conductor side.
- ○ : Through hole.
- ▨ : Pattern from the side which enable seeing. (The other layers' patterns are not indicated.)

• Semiconductor Location

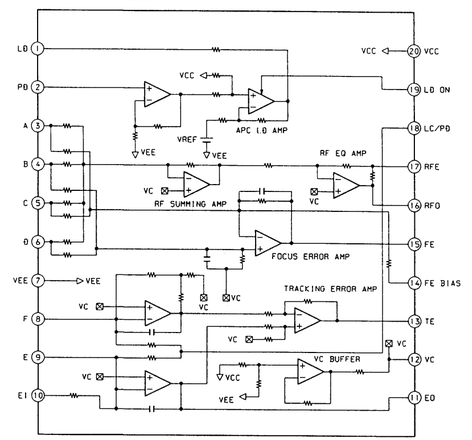
Ref. No.	Location
D101	E-1
IC101	D-3
IC102	E-4
IC103	D-6
Q101	D-7
Q102	D-7

• IC Block Diagrams

IC101 CXD2545Q



IC103 CXA1821M



6-6. IC PIN FUNCTION

• IC801 SYSTEM CONTROL, FLUORESCENT INDICATOR TUBE DRIVE (CXP82316-069Q)

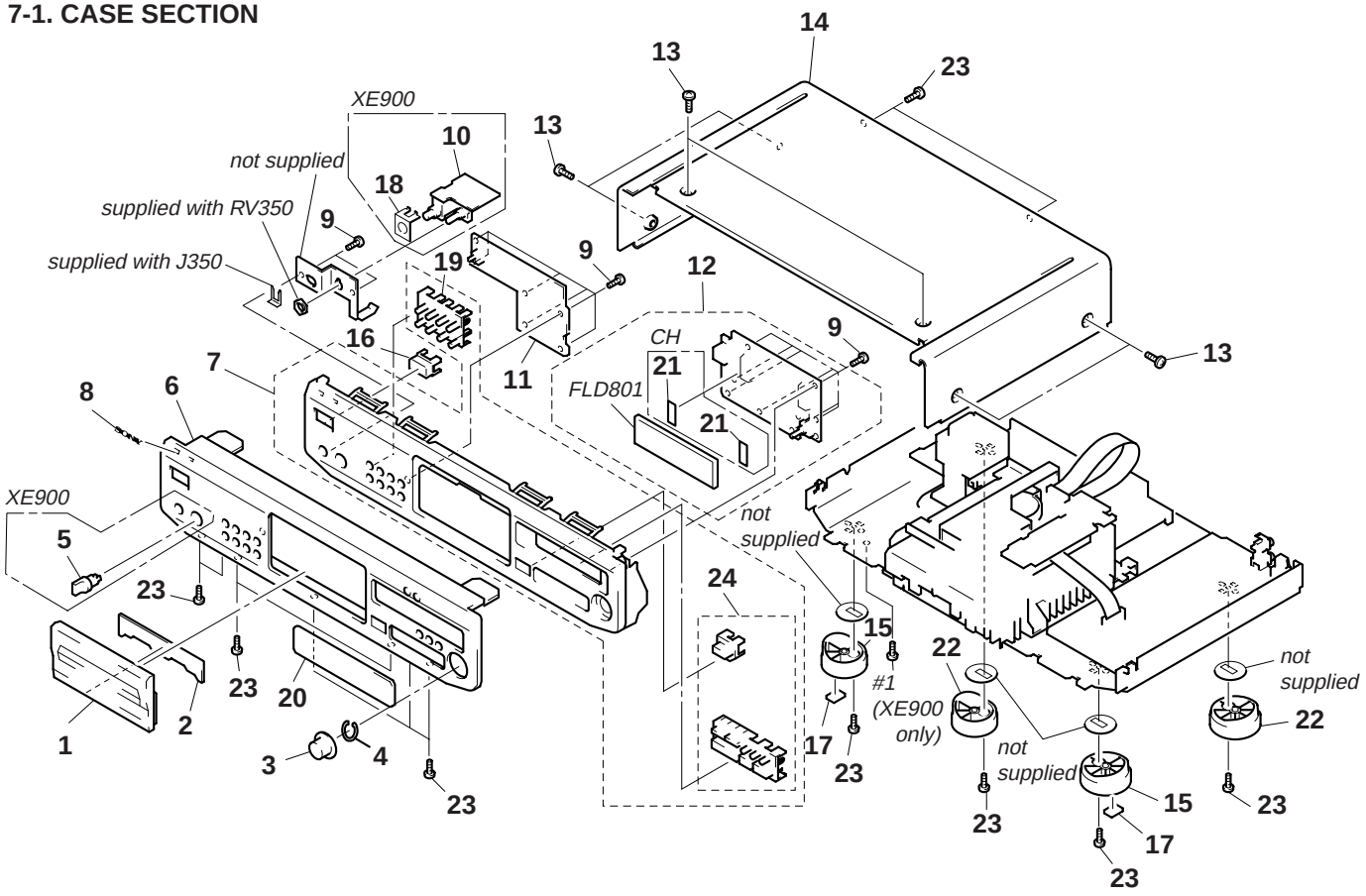
Pin No.	Pin Name	I/O	Function
1	TIMER	I	Timer switch input. (Not used) Connected to +5V.
2	RM (BUSIN)	I	Audio bus (Remote control) input.
3	+5V	–	Connected to +5V.
4	OPEN	–	Not used. (Open)
5	OPEN	–	
6	(BUS OUT)	O	Audio bus output. (Not used)
7	PGML	O	Latch signal output to digital filter (IC303).
8	CLK	O	Serial clock output.
9	SENSE	I	SENSE signal input.
10	DATA	O	Serial data output.
11	SQCK	O	Read out clock output for subcode Q data.
12	SUBQ	I	Subcode Q data input.
13	OPEN	–	Open. (Not used)
14	AMUTE	O	Analog muting control signal output.
15	LDON	O	Optical pick-up laser diode control output.
16	XLT	O	Serial data latch signal output.
17	RVLED	O	Not used. (Open)
18	RV+	I	Remote commander volume +. (Not used)
19	RV–	I	Remote commander volume –. (Not used)
20	LDOUT	O	Loading motor control signal output.
21	LDIN	O	
22 to 27	KEY0 to KEY5	I	Key input. (S801 to S810, S820 to S826, S828)
28	ADJ/AFADJ	–	ADJ, AFADJ test pin.
29	IN/OUTSW	I	Loading IN/OUT switch input.
30	RST	I	Reset signal input.
31	EXTAL	I	Clock input. (4 MHz)
32	XTAL	O	Clock output. (4 MHz)
33	V_{SS}	–	Ground
34 to 41	OPEN	–	Not used. (Open)
42 to 62	S1 to S21	O	Fluorescent Indicator Tube segment output.
63 to 70	1G to 8G	O	Fluorescent Indicator Tube grid output.
71	VFDP (–30V)	–	–30V pin for Fluorescent Indicator tube.
72	V_{DD} (+5V)	–	+5V pin.
73	—	–	
74	SEL1	–	Connected to Ground.
75	IN PORT	–	Connected to +5V.
76	IN PORT	–	
77	IN PORT	–	
78	SCOR	I	Read out timing signal input for subcode Q data.
79	SEL2	–	Connected to Ground.
80	SEL3	–	Connected to Ground.

SECTION 7
EXPLODED VIEWS

NOTE:
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  G : German model
  CH : Chinese model

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

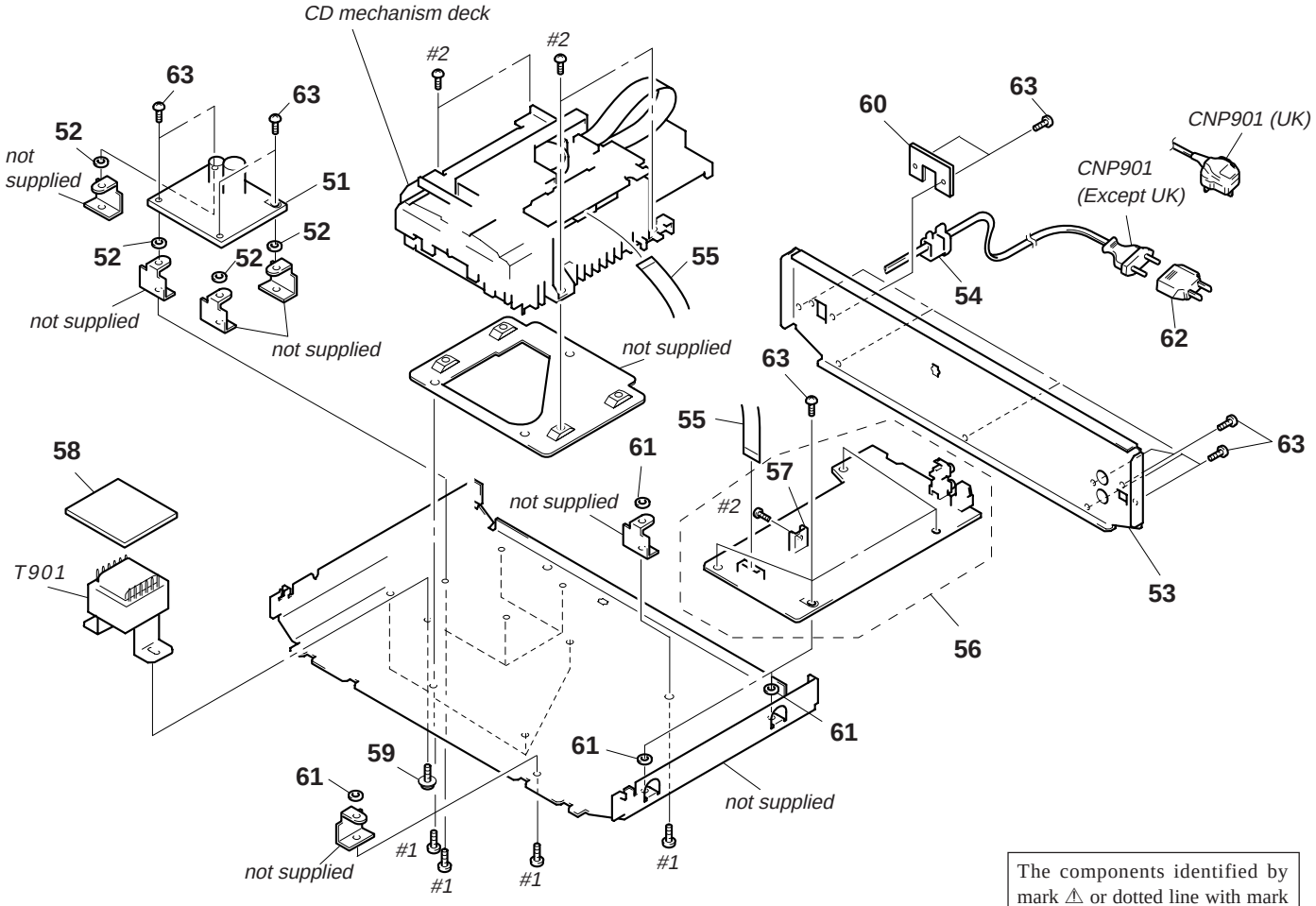
7-1. CASE SECTION



Ref. No.	Part No.	Description	Remark
1	4-978-900-01	PANEL, LOADING	
* 2	4-980-480-01	CUSHION (LOADING)	
3	4-977-590-01	KNOB (AMS)	
4	3-354-981-01	SPRING (SUS), RING	
5	4-950-189-01	KNOB (A)(VOL)(XE900)	
6	4-979-387-01	PANEL, FRONT (XE900)	
6	4-979-387-11	PANEL, FRONT (XE900E)	
7	X-4946-656-1	BASE ASSY (ALS), PANEL	
8	4-979-587-01	EMBLEM (NO.5), SONY	
9	4-951-620-01	SCREW (2.6X8), +BVTP	
* 10	1-659-495-11	HP BOARD (XE900)	
* 11	1-659-493-11	KEY BOARD	
* 12	A-4673-831-A	DISP BOARD, COMPLETE (XE900E:CH)	
* 12	A-4673-837-A	DISP BOARD, COMPLETE (XE900/XE900E:UK)	
13	3-363-099-01	SCREW (CASE 3 TP2)(XE900)	
13	4-974-509-01	SCREW (CASE 3B)(XE900E)	

Ref. No.	Part No.	Description	Remark
14	4-980-420-21	CASE (409526)	
15	X-4947-440-1	FOOT ASSY (SILVER)	
16	4-977-589-01	BUTTON (POWER)(XE900E:CH)	
16	4-977-589-21	BUTTON (POWER)(XE900/XE900E:UK)	
17	4-983-762-11	CUSHION	
* 18	4-962-201-01	PLATE (HP), GROUND (XE900)	
19	4-977-584-01	BUTTON (MODE)	
20	4-979-388-01	PLATE, INDICATION (XE900E:CH)	
20	4-979-388-11	PLATE, INDICATION (XE900/XE900E:UK)	
* 21	4-955-901-01	CUSHION (FL)(XE900:CH)	
22	X-4947-207-1	FOOT ASSY (F50150S)(XE900/XE900E:UK)	
22	X-4947-389-1	FOOT ASSY (F50150S)(XE900E:CH)	
23	4-974-510-01	SCREW (+BV 3X8 B)(XE900E)	
23	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S (XE900)	
24	4-977-583-11	BUTTON (PLAY)	
FLD801	1-519-757-11	INDICATOR TUBE, FLUORESCENT	

7-2. CHASSIS SECTION

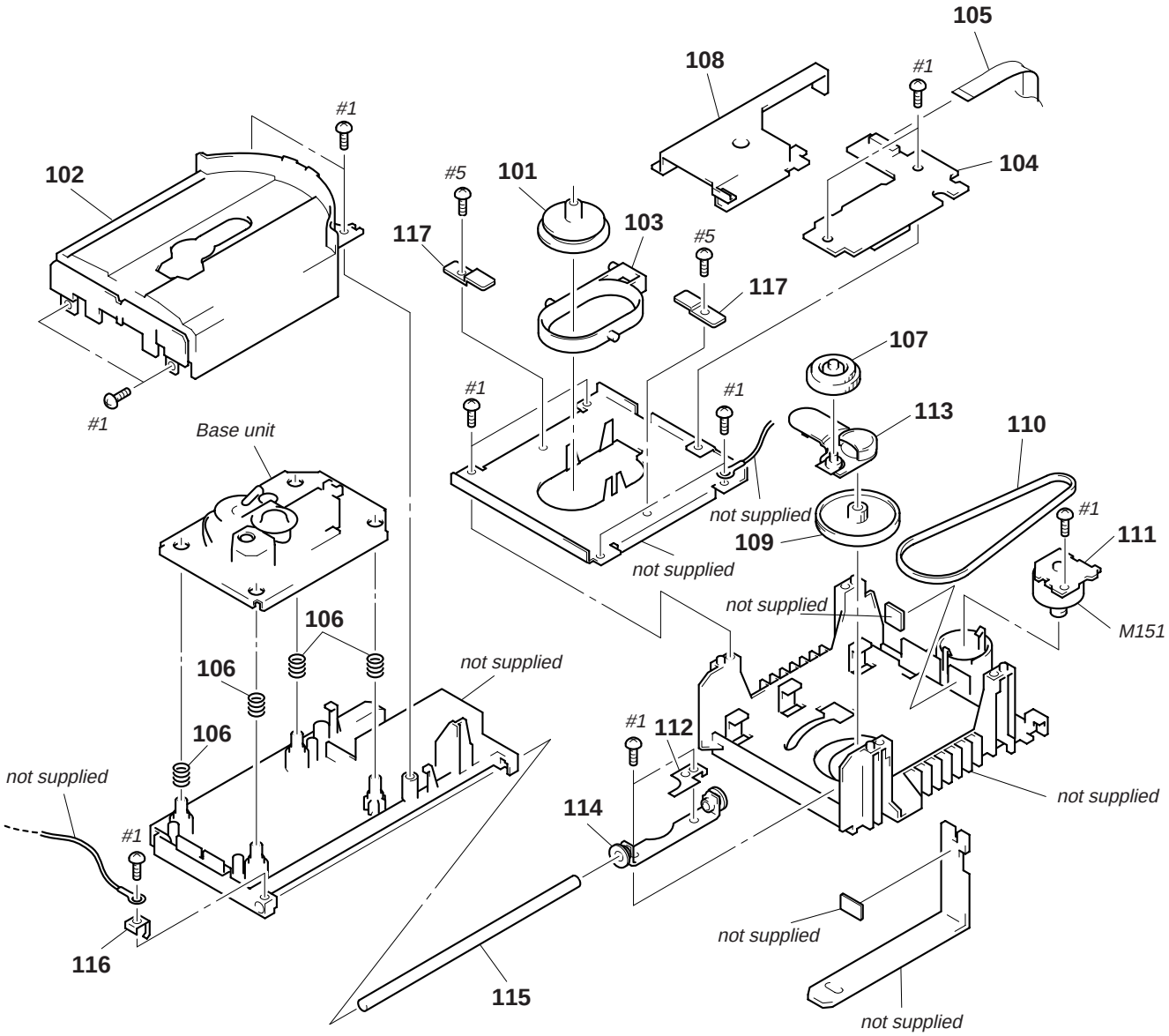


The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
* 51	1-662-405-11	POWER BOARD	
52	4-955-939-01	WASHER (CASE)(EXCEPT UK)	
52	4-985-057-01	WASHER (UK)	
* 53	4-983-973-11	PANEL, BACK (XE900)	
* 53	4-983-973-21	PANEL, BACK (XE900E:UK)	
* 53	4-983-973-31	PANEL, BACK (XE900E:CH)	
54	3-703-244-00	BUSHING, CORD	
55	1-776-235-11	WIRE (FLAT TYPE)(23 CORE)	
* 56	A-4673-833-A	MAIN BOARD, COMPLETE (XE900E:CH)	
* 56	A-4673-836-A	MAIN BOARD, COMPLETE (XE900)	
* 56	A-4673-967-A	MAIN BOARD, COMPLETE (XE900E:UK)	
* 57	3-309-144-21	HEAT SINK	

Ref. No.	Part No.	Description	Remark
* 58	1-659-494-11	TRANS BOARD	
59	2-383-566-00	SCREW	
* 60	4-923-873-01	BRACKET, CORD STOPPER	
61	4-985-057-01	WASHER	
⚠62	1-569-008-11	ADAPTOR, CONVERSION 2P (XE900E:CH)	
63	4-974-510-01	SCREW (+BV 3X8 B)(XE900E)	
63	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S (XE900)	
⚠CNP901	1-575-651-21	CORD, POWER (XE900/XE900E:CH)	
⚠CNP901	1-696-907-11	CORD, POWER (XE900E:UK)	
⚠T901	1-429-766-11	TRANSFORMER, POWER	

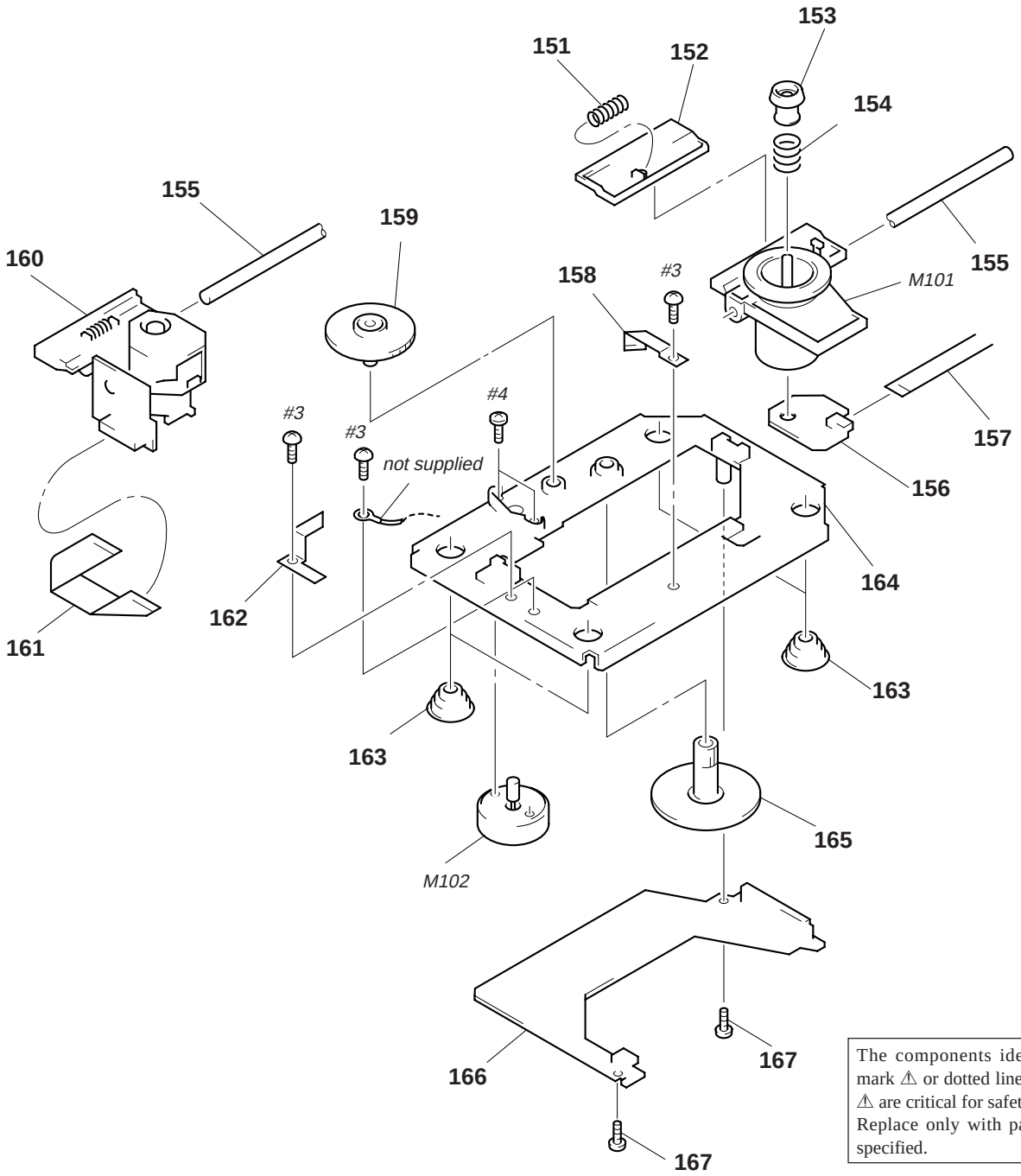
7-3. CD MECHANISM SECTION (CDM36-14)



Ref. No.	Part No.	Description	Remark
101	1-452-820-11	MAGNET (ASSY)	
* 102	4-977-902-01	PANEL (DRAWER)	
* 103	4-977-894-01	HOLDER (AP)	
* 104	A-4673-722-A	BD BOARD, COMPLETE	
105	1-776-998-11	WIRE (FLAT TYPE)(21 CORE)	
106	4-948-503-01	SPRING (BU), COMPRESSION	
107	4-977-897-01	GEAR	
* 108	4-977-893-01	CAM, SLIDE	
109	4-977-896-01	PULLEY	
110	4-968-905-01	BELT (CDM)	

Ref. No.	Part No.	Description	Remark
* 111	1-658-710-11	LOADING BOARD	
* 112	4-977-891-01	PLATE, GROUND	
113	4-977-898-01	LEVER (SWING)	
* 114	4-977-892-01	BEARING	
* 115	4-977-888-01	SHAFT	
* 116	4-977-889-01	PLATE (BU), GROUND	
117	4-984-826-01	LOCK (SLIDE CAM)	
M151	A-4660-968-A	MOTOR ASSY (LOADING)	

7-4. BASE UNIT SECTION (BU-14)



The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
151	4-977-925-01	SPRING(SLIDE BASE),COMPRESSION	
152	4-977-926-01	RACK, SLIDE	
153	4-977-915-01	CAP, CENTERING	
154	4-977-927-01	SPRING (CENTERING),COMPRESSION	
155	4-977-923-01	SHAFT, SLED	
* 156	1-658-708-11	SPINDLE BOARD	
157	1-775-990-11	WIRE (FLAT TYPE)(5 CORE)	
* 158	4-977-928-01	SPRING (SPINDLE), LEAF	
159	4-977-921-01	GEAR (B), FLAT	
⚠160	8-848-376-01	OPTICAL PICK-UP BLOCK KSS-213B/S-N	

Ref. No.	Part No.	Description	Remark
161	1-775-991-11	WIRE (FLAT TYPE)(16 CORE)	
* 162	4-977-924-01	SPRING (OP), LEAF	
163	4-951-940-01	INSULATOR (BU)	
* 164	4-977-918-01	BASE (OUTSERT)	
165	4-977-920-01	GEAR (C), FLAT	
* 166	1-658-709-11	SLED BOARD	
167	4-951-620-01	SCREW (2.6X8), +BVTP	
M101	X-4947-304-1	MOTOR ASSY (SPINDLE)	
M102	X-4947-303-1	MOTOR ASSY (SLED)	

SECTION 8
ELECTRICAL PARTS LIST

BD

Note:

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- RESISTORS
  All resistors are in ohms
  METAL: Metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F : nonflammable
- SEMICONDUCTORS
  In each case, u: µ , for example:
  uA...: µ A..., uPA...: µ PA..., uPB...: µ PB..., uPC...: µ PC..., uPD...: µ PD...
- CAPACITORS
  uF : µ F
- COILS
  uH : µ H
- Abbreviation
  G : German model
  CH : Chinese model

Ref. No.	Part No.	Description			Remark
*	A-4673-722-A	BD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C101	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C102	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C103	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C105	1-135-155-21	TANTALUM CHIP	4.7uF	10%	16V
C106	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C107	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C108	1-163-035-00	CERAMIC CHIP	0.047uF		50V
C109	1-163-145-00	CERAMIC CHIP	0.0015uF	5%	50V
C110	1-163-017-00	CERAMIC CHIP	0.0047uF	5%	50V
C111	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C112	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C113	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C115	1-126-607-11	ELECT CHIP	47uF	20%	4V
C116	1-126-607-11	ELECT CHIP	47uF	20%	4V
C117	1-126-209-11	ELECT	100uF	20%	4V
C118	1-163-275-11	CERAMIC CHIP	0.001uF	5%	50V
C119	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C120	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C123	1-164-232-11	CERAMIC CHIP	0.01uF		50V
C124	1-164-005-11	CERAMIC CHIP	0.47uF		25V
C131	1-164-346-11	CERAMIC CHIP	1uF		16V
C132	1-164-346-11	CERAMIC CHIP	1uF		16V
C140	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C141	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C151	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C152	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C153	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C154	1-164-336-11	CERAMIC CHIP	0.33uF		25V
C155	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C156	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C157	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C158	1-163-023-00	CERAMIC CHIP	0.015uF	5%	50V
C159	1-163-019-00	CERAMIC CHIP	0.0068uF	10%	50V
C160	1-164-161-11	CERAMIC CHIP	0.0022uF	10%	100V
C161	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C162	1-163-038-91	CERAMIC CHIP	0.1uF		25V
C171	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C172	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C173	1-164-232-11	CERAMIC CHIP	0.01uF		50V

Ref. No.	Part No.	Description			Remark
		< CONNECTOR >			
CN101	1-770-072-11	CONNECTOR, FFC 23P			
CN102	1-750-753-11	CONNECTOR, FFC/FPC 21P			
CN103	1-774-653-21	PIN, CONNECTOR (PC BOARD) 3P			
		< DIODE >			
D101	8-719-016-74	DIODE 1SS352			
		< IC >			
IC101	8-752-369-78	IC CXD2545Q			
IC102	8-759-071-79	IC BA6297AFP			
IC103	8-752-072-45	IC CXA1821M-T6			
		< COIL >			
L101	1-414-234-11	INDUCTOR, FERRITE BEAD			
		< TRANSISTOR >			
Q101	8-729-010-08	TRANSISTOR MSB710-R			
Q102	8-729-010-08	TRANSISTOR MSB710-R			
		< RESISTOR >			
R101	1-216-077-00	METAL CHIP	15K	5%	1/10W
R102	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R103	1-216-077-00	METAL CHIP	15K	5%	1/10W
R104	1-216-085-00	METAL CHIP	33K	5%	1/10W
R105	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R106	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R107	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R108	1-216-073-00	METAL CHIP	10K	5%	1/10W
R109	1-216-121-91	METAL GLAZE	1M	5%	1/10W
R110	1-216-025-91	METAL GLAZE	100	5%	1/10W
R112	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R113	1-216-073-00	METAL CHIP	10K	5%	1/10W
R114	1-216-073-00	METAL CHIP	10K	5%	1/10W
R117	1-216-073-00	METAL CHIP	10K	5%	1/10W
R118	1-216-073-00	METAL CHIP	10K	5%	1/10W
R121	1-216-073-00	METAL CHIP	10K	5%	1/10W
R122	1-216-073-00	METAL CHIP	10K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R124	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R125	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R126	1-216-049-91	METAL GLAZE	1K	5%	1/10W
R127	1-216-049-91	METAL GLAZE	1K	5%	1/10W

BD **DISP**

Ref. No.	Part No.	Description			Remark
R131	1-216-037-00	METAL CHIP	330	5%	1/10W
R133	1-216-049-91	METAL CHIP	1K	5%	1/10W
R134	1-216-049-91	METAL CHIP	1K	5%	1/10W
R135	1-216-295-91	CONDUCTOR, CHIP(2012)			
R136	1-216-295-91	CONDUCTOR, CHIP(2012)			
R137	1-216-295-91	CONDUCTOR, CHIP(2012)			
R138	1-216-295-91	CONDUCTOR, CHIP(2012)			
R140	1-216-295-91	CONDUCTOR, CHIP(2012)			
R141	1-216-089-91	METAL GLAZE	47K	5%	1/10W
R142	1-216-081-00	METAL CHIP	22K	5%	1/10W
R143	1-216-103-00	METAL CHIP	180K	5%	1/10W
R144	1-216-103-00	METAL CHIP	180K	5%	1/10W
R145	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R146	1-216-073-00	METAL CHIP	10K	5%	1/10W
R147	1-216-081-00	METAL CHIP	22K	5%	1/10W
R148	1-216-001-00	METAL CHIP	10	5%	1/10W
R149	1-216-003-11	METAL GLAZE	12	5%	1/10W
R151	1-216-073-00	METAL CHIP	10K	5%	1/10W
R152	1-216-073-00	METAL CHIP	10K	5%	1/10W
R153	1-216-073-00	METAL CHIP	10K	5%	1/10W
R154	1-216-073-00	METAL CHIP	10K	5%	1/10W
R155	1-216-073-00	METAL CHIP	10K	5%	1/10W
R156	1-216-073-00	METAL CHIP	10K	5%	1/10W
R157	1-216-105-91	METAL GLAZE	220K	5%	1/10W
R158	1-216-105-91	METAL GLAZE	220K	5%	1/10W
R159	1-216-101-00	METAL CHIP	150K	5%	1/10W
R160	1-216-097-91	METAL GLAZE	100K	5%	1/10W
R161	1-216-308-00	METAL CHIP	4.7	5%	1/10W
R162	1-216-113-00	METAL CHIP	470K	5%	1/10W
R163	1-216-105-91	METAL GLAZE	220K	5%	1/10W
R164	1-216-295-91	CONDUCTOR, CHIP(2012)			
R165	1-216-295-91	CONDUCTOR, CHIP(2012)			
R166	1-216-295-91	CONDUCTOR, CHIP(2012)			
R171	1-216-073-00	METAL CHIP	10K	5%	1/10W
R172	1-216-073-00	METAL CHIP	10K	5%	1/10W
R173	1-216-073-00	METAL CHIP	10K	5%	1/10W
R174	1-216-073-00	METAL CHIP	10K	5%	1/10W
R175	1-216-073-00	METAL CHIP	10K	5%	1/10W
R176	1-216-073-00	METAL CHIP	10K	5%	1/10W
R177	1-216-025-91	METAL GLAZE	100	5%	1/10W
R181	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R182	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R183	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R184	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
		< SWITCH >			
S152	1-762-010-11	SWITCH, LEVER (LOAD IN SW)			
S153	1-762-010-11	SWITCH, LEVER (LOAD OUT SW)			

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Ref. No.	Part No.	Description			Remark
*	A-4673-831-A	DISP BOARD, COMPLETE (XE900E:CH)			
		**********			
*	A-4673-837-A	DISP BOARD, COMPLETE (XE900/XE900E:UK)			
		**********			
*	4-955-901-01	CUSHION (FL)(XE900E:CH)			
		< CAPACITOR >			
C801	1-164-159-11	CERAMIC	0.1uF		50V (XE900E:CH)
C801	1-164-159-21	CERAMIC	0.1uF		50V (XE900/XE900E:UK)
C802	1-164-159-11	CERAMIC	0.1uF		50V (XE900E:CH)
C802	1-164-159-21	CERAMIC	0.1uF		50V (XE900/XE900E:UK)
C803	1-164-159-11	CERAMIC	0.1uF		50V (XE900E:CH)
C803	1-164-159-21	CERAMIC	0.1uF		50V (XE900/XE900E:UK)
C804	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
* CN801	1-568-865-11	SOCKET, CONNECTOR 23P			
CN801	1-750-464-11	CONNECTOR, FFC/FPC 23P			
		< FLUORESCENT INDICATOR >			
FLD801	1-519-757-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC801	8-752-875-32	IC CXP82316-069Q			
IC802	8-741-810-59	IC SBX1810-59			
		< TRANSISTOR >			
Q801	8-729-029-67	TRANSISTOR DTC114ESA-TP			
		< RESISTOR >			
R801	1-249-441-11	CARBON	100K	5%	1/4W
R802	1-249-427-11	CARBON	6.8K	5%	1/4W F
R803	1-249-427-11	CARBON	6.8K	5%	1/4W F
R804	1-249-429-11	CARBON	10K	5%	1/4W
R805	1-249-427-11	CARBON	6.8K	5%	1/4W F
R806	1-249-427-11	CARBON	6.8K	5%	1/4W F
R807	1-249-415-11	CARBON	680	5%	1/4W F
R808	1-249-417-11	CARBON	1K	5%	1/4W F
R809	1-249-419-11	CARBON	1.5K	5%	1/4W F
R810	1-249-421-11	CARBON	2.2K	5%	1/4W F
R812	1-249-415-11	CARBON	680	5%	1/4W F
R813	1-249-417-11	CARBON	1K	5%	1/4W F
R814	1-249-419-11	CARBON	1.5K	5%	1/4W F
R816	1-249-429-11	CARBON	10K	5%	1/4W
R817	1-249-427-11	CARBON	6.8K	5%	1/4W F

Ref. No.	Part No.	Description			Remark
R818	1-249-429-11	CARBON	10K	5%	1/4W
R819	1-249-429-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S801	1-554-303-21	SWITCH, TACTILE (ENTER)			
S802	1-554-303-21	SWITCH, TACTILE (CLEAR)			
S803	1-554-303-21	SWITCH, TACTILE (CHECK)			
S804	1-554-303-21	SWITCH, TACTILE (▶▶I)			
S805	1-554-303-21	SWITCH, TACTILE (I◀◀)			
S806	1-554-303-21	SWITCH, TACTILE (■)			
S807	1-554-303-21	SWITCH, TACTILE (❚❚)			
S808	1-554-303-21	SWITCH, TACTILE (►)			
S809	1-554-303-21	SWITCH, TACTILE (⏏ OPEN/CLOSE)			
S810	1-473-452-11	ENCODER, ROTARY (I◁◁ AMS ▷▷I)			
		< VIBRATOR >			
X801	1-577-082-11	VIBRATOR, CERAMIC (4MHz) (XE900/XE900E:UK)			
X801	1-577-358-21	VIBRATOR, CERAMIC (XE900E:CH)			
**********					
*	1-659-495-11	HP BOARD (XE900) **********			
*	4-962-201-01	PLATE (HP), GROUND			
		< CAPACITOR >			
C350	1-162-294-31	CERAMIC	0.001uF	10%	50V
C351	1-162-294-31	CERAMIC	0.001uF	10%	50V
C352	1-164-159-21	CERAMIC	0.1uF		50V
		< JACK >			
J350	1-750-162-61	JACK (LARGE TYPE)(PHONES)			
		< COIL >			
L350	1-410-507-11	INDUCTOR 6.8uH			
L351	1-410-507-11	INDUCTOR 6.8uH			
L352	1-412-473-41	INDUCTOR 0uH			
		< VARIABLE RESISTOR >			
RV350	1-223-926-11	RES, VAR, CARBON 1K/1K (LINE OUT, PHONE LEVEL)			
**********					

Ref. No.	Part No.	Description			Remark
*	1-659-493-11	KEY BOARD *********			
		< RESISTOR >			
R820	1-249-415-11	CARBON	680	5%	1/4W F
R821	1-249-417-11	CARBON	1K	5%	1/4W F
R822	1-249-421-11	CARBON	2.2K	5%	1/4W F
R823	1-247-843-11	CARBON	3.3K	5%	1/4W
R824	1-249-427-11	CARBON	6.8K	5%	1/4W F
R825	1-249-431-11	CARBON	15K	5%	1/4W
R826	1-249-419-11	CARBON	1.5K	5%	1/4W F
		< SWITCH >			
S820	1-554-303-21	SWITCH, TACTILE (TIME)			
S821	1-554-303-21	SWITCH, TACTILE (FADER)			
S822	1-554-303-21	SWITCH, TACTILE (REPEAT)			
S823	1-554-303-21	SWITCH, TACTILE (EDIT/TIME FADE)			
S824	1-554-303-21	SWITCH, TACTILE (PEAK SEARCH)			
S825	1-554-303-21	SWITCH, TACTILE (AUTO SPACE)			
S826	1-554-303-21	SWITCH, TACTILE (MUSIC SCAN)			
S827	1-554-118-00	SWITCH, PUSH (1 KEY)(POWER)			
S828	1-554-303-21	SWITCH, TACTILE (PLAY MODE)			
**********					
*	1-658-710-11	LOADING BOARD **********			
		< MOTOR >			
M151	A-4660-968-A	MOTOR ASSY (LOADING)			
**********					
*	A-4673-833-A	MAIN BOARD, COMPLETE (XE900E:CH) **********			
*	A-4673-836-A	MAIN BOARD, COMPLETE (XE900) **********			
*	A-4673-967-A	MAIN BOARD, COMPLETE (XE900E:UK) **********			
*	3-309-144-21	HEAT SINK			
	7-685-871-01	SCREW +BVTT 3X6 (S)			
		< CAPACITOR >			
C301	1-161-494-00	CERAMIC	0.022uF		25V
C303	1-162-306-11	CERAMIC	0.01uF	30%	16V
C304	1-161-494-00	CERAMIC	0.022uF		25V
C305	1-164-159-11	CERAMIC	0.1uF		50V (XE900E:CH)
C305	1-164-159-21	CERAMIC	0.1uF		50V (XE900/XE900E:UK)
C306	1-126-962-11	ELECT	3.3uF	20%	50V
C308	1-126-059-11	ELECT	10uF	20%	50V

MAIN

Ref. No.	Part No.	Description			Remark
C353	1-162-290-31	CERAMIC	470PF	10%	50V
C355	1-162-282-31	CERAMIC	100PF	10%	50V
C356	1-164-159-11	CERAMIC	0.1uF		50V
					(XE900E:CH)
C356	1-164-159-21	CERAMIC	0.1uF		50V
					(XE900/XE900E:UK)
C357	1-162-208-31	CERAMIC	24PF	5%	50V
C358	1-102-942-00	CERAMIC	5.0PF	+-0.5PF	50V
C359	1-102-942-00	CERAMIC	5.0PF	+-0.5PF	50V
C360	1-136-850-11	FILM	0.1uF	5%	63V
C361	1-124-910-11	ELECT	47uF	20%	50V
C392	1-161-494-00	CERAMIC	0.022uF		25V
C395	1-164-159-11	CERAMIC	0.1uF		50V
					(XE900E:CH)
C395	1-164-159-21	CERAMIC	0.1uF		50V
					(XE900/XE900E:UK)
C396	1-164-159-11	CERAMIC	0.1uF		50V
					(XE900E:CH)
C396	1-164-159-21	CERAMIC	0.1uF		50V
					(XE900/XE900E:UK)
C397	1-161-494-00	CERAMIC	0.022uF		25V
C400	1-161-494-00	CERAMIC	0.022uF		25V
C401	1-126-059-11	ELECT	10uF	20%	50V
C402	1-161-494-00	CERAMIC	0.022uF		25V
C403	1-124-910-11	ELECT	47uF	20%	50V
C404	1-136-850-11	FILM	0.1uF	5%	63V
C405	1-126-059-11	ELECT	10uF	20%	50V
C406	1-136-850-11	FILM	0.1uF	5%	63V
C407	1-126-059-11	ELECT	10uF	20%	50V
C408	1-102-942-00	CERAMIC	5.0PF	+-0.5PF	50V
C409	1-130-483-00	MYLAR	0.01uF	5%	50V
					(XE900/XE900E:CH)
C410	1-136-808-11	FILM	100PF	5%	100V
C411	1-136-808-11	FILM	100PF	5%	100V
C412	1-130-472-00	MYLAR	0.0012uF	5%	50V
C413	1-130-484-00	MYLAR	0.012uF	5%	50V
C414	1-136-802-11	FILM	0.015uF	5%	100V
C415	1-115-197-11	ELECT	100uF	20%	25V
C416	1-115-197-11	ELECT	100uF	20%	25V
C417	1-102-129-00	CERAMIC	10000PF	10%	50V
					(XE900/XE900E:CH)
C417	1-130-487-00	MYLAR	0.022uF	5%	50V
					(XE900E:UK)
C423	1-124-910-11	ELECT	47uF	20%	50V
C426	1-136-802-11	FILM	0.015uF	5%	100V
C427	1-136-802-11	FILM	0.015uF	5%	100V
C428	1-124-910-11	ELECT	47uF	20%	50V
C430	1-126-049-11	ELECT	22uF	20%	50V
					(XE900/XE900E:CH)
C430	1-126-052-11	ELECT	100uF	20%	16V
					(XE900E:UK)
C431	1-130-483-00	MYLAR	0.01uF	5%	50V
C432	1-130-483-00	MYLAR	0.01uF	5%	50V
C451	1-162-294-31	CERAMIC	0.001uF	10%	50V
					(XE900)

Ref. No.	Part No.	Description			Remark
C500	1-161-494-00	CERAMIC	0.022uF		25V
C501	1-126-059-11	ELECT	10uF	20%	50V
C502	1-161-494-00	CERAMIC	0.022uF		25V
C503	1-124-910-11	ELECT	47uF	20%	50V
C504	1-136-850-11	FILM	0.1uF	5%	63V
C505	1-126-059-11	ELECT	10uF	20%	50V
C506	1-136-850-11	FILM	0.1uF	5%	63V
C507	1-126-059-11	ELECT	10uF	20%	50V
C508	1-102-942-00	CERAMIC	5.0PF	+-0.5PF	50V
C509	1-130-483-00	MYLAR	0.01uF	5%	50V
					(XE900/XE900E:CH)
C510	1-136-808-11	FILM	100PF	5%	100V
C511	1-136-808-11	FILM	100PF	5%	100V
C512	1-130-472-00	MYLAR	0.0012uF	5%	50V
C513	1-130-484-00	MYLAR	0.012uF	5%	50V
C514	1-136-802-11	FILM	0.015uF	5%	100V
C515	1-115-197-11	ELECT	100uF	20%	25V
C516	1-115-197-11	ELECT	100uF	20%	25V
C517	1-102-129-00	CERAMIC	10000PF	10%	50V
					(XE900/XE900E:CH)
C517	1-130-487-00	MYLAR	0.022uF	5%	50V
					(XE900E:UK)
C523	1-124-910-11	ELECT	47uF	20%	50V
C527	1-136-802-11	FILM	0.015uF	5%	100V
C531	1-130-483-00	MYLAR	0.01uF	5%	50V
C532	1-130-483-00	MYLAR	0.01uF	5%	50V
C551	1-162-294-31	CERAMIC	0.001uF	10%	50V
					(XE900)
C915	1-124-907-11	ELECT	10uF	20%	50V
C920	1-162-294-31	CERAMIC	0.001uF	10%	50V
C921	1-126-962-11	ELECT	3.3uF	20%	50V
C922	1-164-159-11	CERAMIC	0.1uF		50V
		(XE900E:CH)			
C922	1-164-159-21	CERAMIC	0.1uF		50V
					(XE900/XE900E:UK)
C923	1-161-494-00	CERAMIC	0.022uF		25V
C932	1-104-665-11	ELECT	100uF	20%	16V
C934	1-124-122-11	ELECT	100uF	20%	50V
					(XE900/XE900E:CH)
C935	1-115-197-11	ELECT	100uF	20%	25V
					(XE900E:UK)
C935	1-124-122-11	ELECT	100uF	20%	50V
					(XE900/XE900E:CH)
C937	1-136-850-11	FILM	0.1uF	5%	63V
C939	1-115-197-11	ELECT	100uF	20%	25V
					(XE900E:UK)
C939	1-126-049-11	ELECT	22uF	20%	50V
					(XE900/XE900E:CH)
C941	1-128-201-11	ELECT	100uF	20%	50V
C942	1-126-024-11	ELECT	220uF	20%	16V
C943	1-162-294-31	CERAMIC	0.001uF	10%	50V
C944	1-162-294-31	CERAMIC	0.001uF	10%	50V
C945	1-136-802-11	FILM	0.015uF	5%	100V
C951	1-124-919-11	ELECT	220uF	20%	63V
C952	1-124-919-11	ELECT	220uF	20%	63V

Ref. No.	Part No.	Description	Remark
		< CONNECTOR >	
* CN301	1-568-839-11	SOCKET, CONNECTOR 23P	
CN301	1-750-428-11	CONNECTOR, FFC/FPC 23P	
* CN302	1-568-839-11	SOCKET, CONNECTOR 23P	
CN302	1-750-428-11	CONNECTOR, FFC/FPC 23P	
CN351	1-506-468-11	PIN, CONNECTOR 3P (XE900)	
CN951	1-766-269-11	PIN, CONNECTOR (PC BOARD) 7P	
		< DIODE >	
D301	8-719-010-34	DIODE UZ-4.7BSC (XE900/XE900E:UK)	
D301	8-719-109-81	DIODE RD4.7ESB2 (XE900E:CH)	
D302	8-719-815-85	DIODE 1S1585 (XE900/XE900E:UK)	
D302	8-719-987-63	DIODE 1N4148M (XE900E:CH)	
D303	8-719-815-85	DIODE 1S1585 (XE900/XE900E:UK)	
D303	8-719-987-63	DIODE 1N4148M (XE900E:CH)	
D911	8-719-815-85	DIODE 1S1585 (XE900/XE900E:UK)	
D911	8-719-987-63	DIODE 1N4148M (XE900E:CH)	
D912	8-719-113-76	DIODE RD27ES-T2B2 (XE900E:CH)	
D912	8-719-982-15	DIODE MTZJ-27B (XE900/XE900E:UK)	
D913	8-719-110-03	DIODE RD7.5ESB2 (XE900/XE900E:UK)	
D913	8-719-110-04	DIODE RD7.5ES-B3 (XE900E:CH)	
D934	8-719-815-85	DIODE 1S1585 (XE900/XE900E:UK)	
D934	8-719-987-63	DIODE 1N4148M (XE900E:CH)	
D935	8-719-109-82	DIODE RD4.7ES-B3 (XE900E:CH)	
D935	8-719-921-40	DIODE MTZJ-4.7C (XE900/XE900E:UK)	
D936	8-719-815-85	DIODE 1S1585 (XE900/XE900E:UK)	
D936	8-719-987-63	DIODE 1N4148M (XE900E:CH)	
D937	8-719-114-30	DIODE RD5.1JS-B2 (XE900E:CH)	
D937	8-719-115-38	DIODE RD5.1JS-T1B2 (XE900/XE900E:UK)	
		< GROUND TERMINAL >	
* EB602	1-537-738-21	TERMINAL, EARTH (XE900/XE900E:UK)	
EB602	1-537-770-21	TERMINAL BOARD, GROUND (XE900E:CH)	
		< IC >	
IC301	8-759-822-09	IC LB1641	
IC302	8-759-361-58	IC CXA8055M	
IC303	8-759-370-62	IC CXD8505BQ	
IC304	8-759-710-59	IC NJM4580D-D (XE900)	
IC305	8-749-921-12	IC GP1F32T (OPTICAL DIGITAL OUT)	
IC401	8-759-712-02	IC NJM2114D	
IC402	8-759-602-83	IC M5238P	
IC501	8-759-712-02	IC NJM2114D	
IC502	8-759-602-83	IC M5238P	
IC920	8-759-636-16	IC M51957AL	
IC930	8-759-710-59	IC NJM4580D-D	
IC931	8-759-710-59	IC NJM4580D-D	
		< JACK >	
J301	1-774-727-11	JACK, PIN 2P (LINE OUT)	

Ref. No.	Part No.	Description	Remark
		< COIL >	
L301	1-410-322-11	INDUCTOR 3.3uH	
L302	1-410-322-11	INDUCTOR 3.3uH	
L303	1-410-503-11	INDUCTOR 3.3uH	
L304	1-410-507-11	INDUCTOR 6.8uH	
L353	1-410-397-21	FERRITE BEAD INDUCTOR (XE900)	
		< IC LINK >	
PS901	1-532-835-21	LINK, IC	
PS902	1-532-685-00	LINK, IC	
PS903	1-532-679-00	LINK, IC	
PS904	1-532-679-00	LINK, IC	
		< TRANSISTOR >	
Q301	8-729-029-56	TRANSISTOR DTA144ESA	
Q302	8-729-029-56	TRANSISTOR DTA144ESA (XE900)	
Q303	8-729-029-56	TRANSISTOR DTA144ESA (XE900)	
Q401	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q402	8-729-231-55	TRANSISTOR 2SC2878-AB (XE900)	
Q501	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q502	8-729-231-55	TRANSISTOR 2SC2878-AB (XE900)	
Q910	8-729-019-64	TRANSISTOR 2SB1041	
Q911	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q920	8-729-030-03	TRANSISTOR DTC144ESA-TP	
Q930	8-729-141-58	TRANSISTOR 2SC2275A-QP	
Q931	8-729-030-03	TRANSISTOR DTC144ESA-TP	
Q932	8-729-029-56	TRANSISTOR DTA144ESA	
Q933	8-729-809-29	TRANSISTOR 2SC4159-E	
Q934	8-729-021-82	TRANSISTOR 2SD2396K	
Q935	8-729-141-10	TRANSISTOR 2SA985A-QP	
Q936	8-729-224-62	TRANSISTOR 2SK246-GR	
		< RESISTOR >	
R301	1-249-417-11	CARBON 1K 5% 1/4W F	
R302	1-249-417-11	CARBON 1K 5% 1/4W F	
R303	1-249-417-11	CARBON 1K 5% 1/4W F	
R304	1-249-417-11	CARBON 1K 5% 1/4W F	
R306	1-247-895-00	CARBON 470K 5% 1/4W (XE900E:CH)	
R306	1-247-895-91	CARBON 470K 5% 1/4W (XE900/XE900E:UK)	
R308	1-249-429-11	CARBON 10K 5% 1/4W	
R312	1-249-417-11	CARBON 1K 5% 1/4W F	
R313	1-249-411-11	CARBON 330 5% 1/4W	
R314	1-247-843-11	CARBON 3.3K 5% 1/4W	
R317	1-249-441-11	CARBON 100K 5% 1/4W	
R318	1-249-441-11	CARBON 100K 5% 1/4W (XE900)	
R319	1-249-441-11	CARBON 100K 5% 1/4W (XE900)	
R362	1-249-415-11	CARBON 680 5% 1/4W F	
R405	1-249-461-11	CARBON 18K 5% 1/4W	

MAIN

Ref. No.	Part No.	Description			Remark
R406	1-249-461-11	CARBON	18K	5%	1/4W
R407	1-249-461-11	CARBON	18K	5%	1/4W
R408	1-249-461-11	CARBON	18K	5%	1/4W
R409	1-249-551-11	CARBON	910	5%	1/4W
R410	1-247-716-11	CARBON	1.8K	5%	1/4W F
R411	1-247-891-00	CARBON	330K	5%	1/4W
R412	1-247-710-11	CARBON	560	5%	1/4W F
R413	1-249-528-91	CARBON	100	5%	1/4W
R416	1-249-547-11	CARBON	620	5%	1/4W
R417	1-249-393-11	CARBON	10	5%	1/4W F (XE900)
R418	1-249-425-11	CARBON	4.7K	5%	1/4W F (XE900)
R419	1-249-425-11	CARBON	4.7K	5%	1/4W F
R420	1-247-815-91	CARBON	220	5%	1/4W (XE900/XE900E:UK)
R420	1-249-409-11	CARBON	220	5%	1/4W F (XE900E:CH)
R421	1-247-815-91	CARBON	220	5%	1/4W (XE900/XE900E:UK)
R421	1-249-409-11	CARBON	220	5%	1/4W F (XE900E:CH)
R422	1-249-411-11	CARBON	330	5%	1/4W
R423	1-249-411-11	CARBON	330	5%	1/4W
R424	1-249-504-11	CARBON	10	5%	1/4W
R425	1-249-504-11	CARBON	10	5%	1/4W
R430	1-249-504-11	CARBON	10	5%	1/4W
R431	1-249-504-11	CARBON	10	5%	1/4W
R432	1-249-538-11	CARBON	270	5%	1/4W
R433	1-249-538-11	CARBON	270	5%	1/4W
R435	1-249-425-11	CARBON	4.7K	5%	1/4W F
R451	1-249-435-11	CARBON	33K	5%	1/4W (XE900)
R452	1-249-435-11	CARBON	33K	5%	1/4W (XE900)
R453	1-249-429-11	CARBON	10K	5%	1/4W (XE900)
R454	1-249-435-11	CARBON	33K	5%	1/4W (XE900)
R455	1-249-401-11	CARBON	47	5%	1/4W F (XE900)
R505	1-249-461-11	CARBON	18K	5%	1/4W
R506	1-249-461-11	CARBON	18K	5%	1/4W
R507	1-249-461-11	CARBON	18K	5%	1/4W
R508	1-249-461-11	CARBON	18K	5%	1/4W
R509	1-249-551-11	CARBON	910	5%	1/4W
R510	1-247-716-11	CARBON	1.8K	5%	1/4W F
R511	1-247-891-00	CARBON	330K	5%	1/4W
R512	1-247-710-11	CARBON	560	5%	1/4W F
R513	1-249-528-91	CARBON	100	5%	1/4W
R516	1-249-547-11	CARBON	620	5%	1/4W
R517	1-249-393-11	CARBON	10	5%	1/4W F (XE900)

Ref. No.	Part No.	Description			Remark
R518	1-249-425-11	CARBON	4.7K	5%	1/4W F (XE900)
R519	1-249-425-11	CARBON	4.7K	5%	1/4W F
R520	1-247-815-91	CARBON	220	5%	1/4W (XE900/XE900E:UK)
R520	1-249-409-11	CARBON	220	5%	1/4W F (XE900E:CH)
R521	1-247-815-91	CARBON	220	5%	1/4W (XE900/XE900E:UK)
R521	1-249-409-11	CARBON	220	5%	1/4W F (XE900E:CH)
R522	1-249-411-11	CARBON	330	5%	1/4W
R523	1-249-411-11	CARBON	330	5%	1/4W
R524	1-249-504-11	CARBON	10	5%	1/4W
R525	1-249-504-11	CARBON	10	5%	1/4W
R526	1-247-708-11	CARBON	470	5%	1/4W F
R530	1-249-504-11	CARBON	10	5%	1/4W
R531	1-249-504-11	CARBON	10	5%	1/4W
R532	1-249-538-11	CARBON	270	5%	1/4W
R533	1-249-538-11	CARBON	270	5%	1/4W
R534	1-249-551-11	CARBON	910	5%	1/4W
R535	1-249-425-11	CARBON	4.7K	5%	1/4W F
R551	1-249-435-11	CARBON	33K	5%	1/4W (XE900)
R552	1-249-435-11	CARBON	33K	5%	1/4W (XE900)
R553	1-249-429-11	CARBON	10K	5%	1/4W (XE900)
R554	1-249-435-11	CARBON	33K	5%	1/4W (XE900)
R555	1-249-401-11	CARBON	47	5%	1/4W F (XE900)
R910	1-249-390-11	CARBON	5.6	5%	1/4W F
R911	1-249-390-11	CARBON	5.6	5%	1/4W F
R912	1-247-843-11	CARBON	3.3K	5%	1/4W
R913	1-247-843-11	CARBON	3.3K	5%	1/4W
⚠R914	1-212-873-11	FUSIBLE	47	5%	1/4W F
R915	1-249-429-11	CARBON	10K	5%	1/4W
R916	1-249-438-11	CARBON	56K	5%	1/4W
R917	1-247-863-91	CARBON	22K	5%	1/4W (XE900/XE900E:UK)
R917	1-249-433-11	CARBON	22K	5%	1/4W (XE900E:CH)
R918	1-247-807-31	CARBON	100	5%	1/4W
R919	1-247-807-31	CARBON	100	5%	1/4W
R920	1-249-431-11	CARBON	15K	5%	1/4W
R921	1-249-435-11	CARBON	33K	5%	1/4W
R922	1-247-843-11	CARBON	3.3K	5%	1/4W
R930	1-249-411-11	CARBON	330	5%	1/4W
R931	1-247-807-31	CARBON	100	5%	1/4W
R932	1-249-436-11	CARBON	39K	5%	1/4W
R933	1-247-807-31	CARBON	100	5%	1/4W
R934	1-249-421-11	CARBON	2.2K	5%	1/4W F
R935	1-247-842-11	CARBON	3K	5%	1/4W

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

Ref. No.	Part No.	Description				Remark
R936	1-247-807-31	CARBON	100	5%	1/4W	
R937	1-249-417-11	CARBON	1K	5%	1/4W	F
R938	1-247-807-31	CARBON	100	5%	1/4W	
R939	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R940	1-247-843-11	CARBON	3.3K	5%	1/4W	
R941	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R942	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R943	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R944	1-247-807-31	CARBON	100	5%	1/4W	
R945	1-249-425-11	CARBON	4.7K	5%	1/4W	F
R946	1-249-429-11	CARBON	10K	5%	1/4W	
R947	1-249-417-11	CARBON	1K	5%	1/4W	F
		< VIBRATOR >				
X301	1-760-955-11	VIBRATOR, CRYSTAL (45MHz)				
**********						
*	1-662-405-11	POWER BOARD **********				
		< CAPACITOR >				
C901	1-164-159-11	CERAMIC	0.1uF		50V	(XE900E:CH)
C901	1-164-159-21	CERAMIC	0.1uF		50V	(XE900/XE900E:UK)
C902	1-164-159-11	CERAMIC	0.1uF		50V	(XE900E:CH)
C902	1-164-159-21	CERAMIC	0.1uF		50V	(XE900/XE900E:UK)
C911	1-128-198-11	ELECT	22uF	20%	63V	
C930	1-117-149-21	ELECT	2200uF	20%	25V	(XE900E:UK)
C930	1-126-234-11	ELECT	2200uF	20%	16V	(XE900/XE900E:CH)
C931	1-115-463-11	CAPACITOR	5600uF	20%	16V	(XE900/XE900E:CH)
C931	1-117-150-21	ELECT	5600uF	20%	25V	(XE900E:UK)
C934	1-115-197-11	ELECT	100uF	20%	25V	(XE900E:UK)
		< CONNECTOR >				
CN903	1-766-269-11	PIN, CONNECTOR (PC BOARD) 7P				
		< DIODE >				
D910	8-719-200-82	DIODE 11ES2				
D914	8-719-200-82	DIODE 11ES2				
D915	8-719-200-82	DIODE 11ES2				
D916	8-719-200-82	DIODE 11ES2				
D930	8-719-210-21	DIODE 11EQS04				
D931	8-719-210-21	DIODE 11EQS04				

Ref. No.	Part No.	Description	Remark
D932	8-719-210-21	DIODE 11EQS04	
D933	8-719-210-21	DIODE 11EQS04	
		< GROUND TERMINAL >	
* EB601	1-537-738-21	TERMINAL, EARTH (XE900/XE900E:UK)	
EB601	1-537-770-21	TERMINAL BOARD, GROUND (XE900E:CH)	
		< COIL >	
L901	1-412-473-21	INDUCTOR 0uH (XE900E:CH)	
L901	1-412-473-41	INDUCTOR 0uH (XE900/XE900E:UK)	
L902	1-412-473-21	INDUCTOR 0uH (XE900E:CH)	
L902	1-412-473-41	INDUCTOR 0uH (XE900/XE900E:UK)	
**********			
*	1-658-709-11	SLED BOARD **********	
		< CONNECTOR >	
CN104	1-774-380-11	CONNECTOR, FFC/FPC 16P	
CN105	1-568-838-11	SOCKET, CONNECTOR 21P	
* CN106	1-750-737-11	CONNECTOR, FFC/FPC 5P	
		< MOTOR >	
M102	X-4947-303-1	MOTOR ASSY (SLED)	
**********			
*	1-658-708-11	SPINDLE BOARD **********	
		< CONNECTOR >	
* CN107	1-568-848-11	SOCKET, CONNECTOR 5P	
		< MOTOR >	
M101	X-4947-304-1	MOTOR ASSY (SPINDLE)	
		< SWITCH >	
S151	1-571-958-11	SWITCH, PUSH (1 KEY)(LIMIT SW)	
**********			
*	1-659-494-11	TRANS BOARD **********	
		< CONNECTOR >	
* CN901	1-580-230-31	PIN, CONNECTOR (PC BOARD) 2P	

TRANS

Ref. No.	Part No.	Description	Remark
		< TRANSFORMER >	
⚠T901	1-429-766-11	TRANSFORMER, POWER	
**********			
		MISCELLANEOUS	
		**********	
55	1-776-235-11	WIRE (FLAT TYPE)(23 CORE)	
⚠62	1-569-008-11	ADAPTOR, CONVERSION 2P (XE900E:CH)	
101	1-452-820-11	MAGNET (ASSY)	
105	1-776-998-11	WIRE (FLAT TYPE)(21 CORE)	
157	1-775-990-11	WIRE (FLAT TYPE)(5 CORE)	
⚠160	8-848-376-01	OPTICAL PICK-UP BLOCK KSS-213B/S-N	
161	1-775-991-11	WIRE (FLAT TYPE)(16 CORE)	
⚠CNP901	1-575-651-21	CORD, POWER (XE900/XE900E:CH)	
⚠CNP901	1-696-907-11	CORD, POWER (XE900E:UK)	
FLD801	1-519-757-11	INDICATOR TUBE, FLUORESCENT	
M101	X-4947-304-1	MOTOR ASSY (SPINDLE)	
M102	X-4947-303-1	MOTOR ASSY (SLED)	
M151	A-4660-968-A	MOTOR ASSY (LOADING)	
⚠T901	1-429-766-11	TRANSFORMER, POWER	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-473-125-11	REMOTE COMMANDER (RM-D820)	
	1-590-925-31	CORD, CONNECTION (AUDIO 1m)	
	3-810-116-11	MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH,SWEDISH) (XE900:AEP/XE900E:UK)	
	3-810-116-21	MANUAL, INSTRUCTION (GERMAN,DUTCH,ITALIAN,PORTUGUESE) (XE900:AEP)	
	3-810-116-31	MANUAL, INSTRUCTION (GERMAN)(XE900:G)	
	3-810-116-51	MANUAL, INSTRUCTION (ENGLISH,FRENCH,SPANISH,CHINESE) (XE900E:CH)	
	4-962-615-01	COVER, BATTERY (for RM-D820)	
*	4-981-603-01	INDIVIDUAL CARTON (XE900E:CH)	
*	4-984-636-01	CUSHION (XE900E:CH)	
*	4-985-137-01	INDIVIDUAL CARTON (XE900E:CH)	
*	4-985-487-01	INDIVIDUAL CARTON (XE900)	
*	4-985-488-01	CUSHION (XE900/XE900E:UK)	
*	4-985-489-01	INDIVIDUAL CARTON (XE900E:UK)	
**********			
		**********	
		HARDWARE LIST	

Ref. No.	Part No.	Description	Remark
		**********	
#1	7-685-646-79	SCREW +BVTP 3X8 TYPE2 N-S	
#2	7-685-871-01	SCREW +BVTT 3X6 (S)	
#3	7-682-548-04	SCREW +BVTT 3X8 (S)	
#4	7-627-852-07	SCREW, PRECISION +P 1.7X2.5	
#5	7-621-772-10	SCREW +B 2X4	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
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English
96F0961-1
Printed in Japan
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Published by Quality Engineering Dept. (Shibaura)

9-960-716-11

Sony Corporation
Home A&V Products Company